

BIBLIOGRAPHY OF THE RHINOCEROS

*An analysis of the literature on the recent
rhinoceroses in culture, history and biology*

by

L.C.ROOKMAAKER



A.A.BALKEMA / ROTTERDAM



BIBLIOGRAPHY OF THE RHINOCEROS

*An analysis of the literature on the recent
rhinoceroses in culture, history and biology*

by

L.C.ROOKMAAKER



A.A.BALKEMA/ROTTERDAM/1983

*To my mother, the memory of my father,
my sister and my brother*

Grateful acknowledgement is made of a grant towards the printing costs
by the M.A.O.C.Gravin van Bylandt Stichting

ISBN 90 6191 261 X

©1983 A.A.Balkema, P.O.Box 1675, 3000 BR Rotterdam, Netherlands
Distributed in USA & Canada by: MBS, 99 Main Street, NH 03079, USA
Printed in the Netherlands

TABLE OF CONTENTS

| | |
|------------------|-----|
| Introduction | vii |
| Acknowledgements | xi |
| Abbreviations | xii |

ANALYSIS OF THE LITERATURE

Part 1. History

| | |
|---------------------------------------|---|
| 1. Ancient Greece and Rome | 5 |
| 2. Middle period (400-1500) | 8 |
| 3. Publications between 1500 and 1800 | 9 |

Part 2. Biology

| | |
|-------------------------------------------------------------|-----|
| 4. The family Rhinocerotidae | 27 |
| 5. The white rhinoceros, <i>Ceratotherium simum</i> | 32 |
| 6. The black rhinoceros, <i>Diceros bicornis</i> | 51 |
| 7. The Sumatran rhinoceros, <i>Dicerorhinus sumatrensis</i> | 86 |
| 8. The Javan rhinoceros, <i>Rhinoceros sondaicus</i> | 107 |
| 9. The Indian rhinoceros, <i>Rhinoceros unicornis</i> | 126 |

Part 3. Culture

| | |
|--------------------------------------|-----|
| 10. Culture in Africa | 149 |
| 11. Culture in ancient Egypt | 151 |
| 12. Culture in Near- and Middle East | 152 |
| 13. Culture in India and Nepal | 153 |
| 14. Culture in South-East Asia | 156 |
| 15. Culture in China | 160 |
| 16. Trade | 162 |
| 17. Culture in Europe and America | 164 |

| | |
|--------------|-----|
| BIBLIOGRAPHY | 165 |
|--------------|-----|

| | |
|-------|-----|
| INDEX | 283 |
|-------|-----|



INTRODUCTION

Much has been written about rhinoceroses. The present bibliography lists 3107 references to publications containing some information about the five living species. Since only a very few monographs have been published, most data must be sought in short papers or in more general books and articles. During the past few years, interest in rhinoceroses has increased, partly because all species are threatened with immediate extinction. Much, however, remains to be learned as most research until recently has been accidental rather than intentional. The first long-term field study, for instance, was made less than twenty years ago.

My own interest in the rhinoceros began some 15 years ago, in 1967. I decided then, with youthful naïveté (being 14 years old at the time), to collect and study 'everything concerning the rhinoceros'. Many hours and days of my spare time were devoted to this task, first in addition to my home work at secondary school, and later in between lectures and courses of my study of biology at the Free University in Amsterdam and at the University of Utrecht. It has been a source of great enjoyment to retrieve even small contributions on rhinoceroses in often unexpected places, to consult obscure books or uncut periodicals, and to correspond and meet with others equally interested in some aspect of rhinocerotology. I have often been surprised about the ubiquity of the rhinoceros. It is just everywhere, not merely in national parks, zoological gardens or museums. I also encountered its likeness in the Jardin des Tuileries of Paris, on the floor of the San Marco in Venice, in the arms of a part of the city of Siena, in house no. 38 of Ulica Grotzka in Cracow, on the crest of the Wade family at Snowhill Manor, as a popgroup and as a political party in Canada 'Rhinoceros', in chains on the steps of the Batsala Devi temple near Kathmandu, on the Rs.100 note of Nepal, on signs of Assam Oil, on stamps and in cartoons and children's books, just to name a few. Tim Clarke of London has always provided me with many references to the rhinoceros in art while doing his own research, and it is a pity that only small parts of his comprehensive documentation have yet been published.

Scholarly study of literature seems hardly popular nowadays. Students start their research projects with the obligatory but rapid search through recent volumes of some appropriate bibliography. Other scholars sometimes merely read some literature in order to include it in their introductions to a research paper. Biologists seem to assume that the generally laborious library work is all but a waste of time. Due to today's methods, it is notoriously difficult to publish any but the shortest literature surveys or to obtain grants for such work. Yet, such reviews often can give much insight and information to others busy with the interpretation of new data. I believe that much can be learned from the efforts of our predecessors and that reviews of their work are not only historically interesting, but also a valuable asset to original research. Happily, I am not alone in this view and one must hope that the pendulum will one day swing back and that the significance of bibliographic work

besides original research will again be understood.

This bibliography tries to list all literature on the five recent species of rhinoceros in all aspects, whether cultural, ethnological, historical, art-historical, parasitological or biological. It includes, however, only publications which I could consult personally resulting in some unavoidable omissions. It is certainly not a complete list, although I would be surprised if it would not cover at least some 75% of the literature on rhinoceroses published between 1500 and 1982. The analysis of the contents of the listed titles should, hopefully, enable future workers to identify earlier contributions to their particular field of interest.

Criteria of inclusion

The initial aim was to present everything published about rhinoceroses. Obviously this could not be achieved. As I have only included publications available to me, some pertinent references may have been excluded either because I was not aware of their existence or because I was unable to find them in a library. Some comments on various points may be made here.

Date: The last entries were made during the first half of 1982. It is interesting to look at the distribution of the included titles through time:

| | | | |
|-----------|------|-----------|-------|
| 1500-1599 | 1.0% | 1850-1899 | 15.2% |
| 1600-1699 | 2.9% | 1900-1949 | 24.7% |
| 1700-1799 | 3.9% | 1950-1982 | 47.3% |
| 1800-1849 | 5.4% | | |

Remarkably, almost half of the entries appeared during the last 32 years. This may partly be attributed to personal bias, but it also seems to indicate that studies (and interest) of rhinoceroses are increasing.

Edition and translation: Usually I have made no attempt to study the first edition in the original language of a certain work or to check different editions of the same book. This bibliography always only cites the earliest edition which I have consulted, except when later editions contained important additional information. When appropriate, the date of the original first edition is provided in parentheses at the end of the entry.

Language: The majority of titles appeared in one of the (West European) languages which I am able to read. Publications in other languages are included, but they are rather few in number. Popular papers are most likely to be present if they were written in Dutch or English. The distribution is as follows:

| | | | |
|---------|-------|--------|------|
| English | 61.2% | Dutch | 8.7% |
| German | 15.1% | Latin | 3.9% |
| French | 9.1% | Others | 2.0% |

Subject matter: There is no restriction as long as the publication contains information about some aspect involving a living species of rhinoceros. This bibliography, however, was prepared by a biologist with an historical interest. Therefore, publications about some (to me) marginal subjects are likely to be underrepresented, e.g. paleontology, parasitology, veterinary biology, microbiology, art history, ethnology, etc.

The massive literature on fossil rhinoceroses is generally excluded. I have, however, included references to extinct subspecies and to the prehistoric distribution of the living rhinoceroses, and to works with extensive morphological comparisons with the living species. It is unlikely that these categories have been

fully covered and the present list can only serve as a start for someone interested in this field.

Type of publication: Excluded are, with few exceptions, articles in newspapers and news magazines, separately published annual reports, guide books of museums and zoological gardens, and catalogues of art museums. Popular papers (e.g. in magazines published by zoological gardens) probably are badly represented proportionally because they are rarely cited and absent from most libraries.

Unpublished reports: It is a regrettable development that the citation of 'unpublished reports' in lists of references is increasing. These works cannot readily be referred to by the average reader. I have encountered difficulties in procuring copies of some very recent reports, even after correspondence with the author or the issuing body. I can only imagine the frustration which these reports will cause to a serious student after a lapse of several years, when the author moved or deceased, or when the responsible organisation has ceased to exist. I have reluctantly included some reports, only if I could obtain a copy, if they are of primary interest, and if they are not superseded by a proper publication by the same author.

The use of the Analysis

The 'Analysis of the literature' is divided into three parts. Part 1 (Chapters 1-3) contains references to the literature published before 1800 and to later titles on the knowledge of the rhinoceros in the western tradition from classical times to 1800. Part 2 (Chapters 4-9) includes the biological literature on the family Rhinocerotidae and the five living species. Part 3 (Chapters 10-17) analyses the role of the rhinoceros in African and Asian cultures and in the western culture after 1800.

Each chapter is divided into a large number of sections. When searching for a particular subject, one can either consult the table of contents or the index. Each section contains one or more references to publications about that particular subject, the full title of which is found in the bibliography. In most cases, one finds the names of the authors, the year of publication and the page-number, often followed by a remark in parentheses. These are intended to give a very brief further indication of the content of that title within the framework of that particular section. These indications in parentheses usually follow the spelling and style of the original publication (e.g. Rhodesia has not been changed into Zambia or Zimbabwe, etc.). My own personal comments are always preceded by the indication 'Note.'. Some sections contain a rather large number of references and, of course, not all of these may be particularly interesting. One could either try to start with a title which is easily available or published recently, or one could look for publications labelled 'review' (often gathered at the beginning of a chapter or section) which may be comprehensive studies on that subject or useful summaries of the older literature.

The bibliography

The citation of the titles in the bibliography follows the style generally adopted nowadays in biological journals. All names of authors are given in full without the use of square brackets, even if the work is signed only by initials. Names including a particle are always transposed in the case of the first author. The Dutch *ij* is alphabetized as *y*; the *ü* and *ö* as *ue* and *oe*.

Dates are those printed on the cover or title-page of the publication itself. Many issues of magazines dated for the last months of the year often did not appear until the first months of the next year, which is only retrievable in exceptional cases. The actual date of publication is only ascertained if the difference is significant in the

framework of rhinoceros studies (mainly for purposes of nomenclature).

Titles of books are cited in full, except (as in some early books) when the title bears resemblance to a table of contents. In those cases the title has been conveniently abbreviated. The title of a book is followed by edition and volume number, and the number of pages. Only the number of the final page is provided, e.g. 'pp. i-xx, 1-200' becomes ': xx, 200'.

ACKNOWLEDGEMENTS

It is quite impossible to mention all those who have enabled me to pursue my interest in the rhinoceros during the past fifteen years. Many helped by sending reprints of their papers or odd pieces of information, or just by accepting my idiosyncrasies. I owe much to several others who are actively engaged in the study of the rhinoceros and who have been exceptionally patient in listening to my questions or theories, or very generous with their results. Together they constitute a large part of the present (very) invisible college of rhinocerotologists: Markus Borner, A.J.E. Cave, Tim H. Clarke, Rod Flynn, Colin P. Groves, Claude Guérin, D.A. Hooijer, H.G. Klös, E.M. Lang, Andrew Laurie, Richard J. Reynolds, R. and L. Schenkel, and Nico van Strien. I have also been helped by B. Brentjes, K.A. Kitchen, Dennis R.H. Levy, Florence Pieters, Herman Reichenbach and Lothar Schlawe. This research certainly would never have been possible without the often timely encouragement and support by Peter J.P. Whitehead, Rob Visser, Peter J.H. van Bree and P. Smit. The latter have also actively assisted in obtaining a grant for publication of the present work.

A study of literature is never possible without the help of libraries which place their resources at disposal to the public. Among those where I have enjoyed hospitality, I especially want to mention the Artis-Library in Amsterdam, where I always had open access to the complete collection since my first visit sometime in 1966. Other research was done in a large number of institutions in Amsterdam, Bombay, Glasgow, Haarlem, The Hague, Johannesburg, Leiden, London, Paris, Utrecht and Wageningen.

Finally, I would never had the time or means to continue my work without the indulgence, support and assistance of my parents, my brother Hans and my sister Marleen. It is, therefore, a pleasure to dedicate this book to them.

ABBREVIATIONS

| | |
|------------|--------------------------|
| arr. | arrived |
| cf. | confer |
| col. cols. | column(s) |
| dt. | district |
| ed. eds. | edition(s), editor(s) |
| ff. | and following |
| fig. | figure |
| G.R. | Game Reserve |
| n.d. | no date |
| N.F. | Neue Folge (= N.S.) |
| N.P. | National Park |
| N.S. | New Series |
| p. pp. | page(s) |
| par. | paragraph |
| pl. | plate |
| prov. | province |
| R. | river, <i>Rhinoceros</i> |
| unpag. | unpaginated |
| vol. | volume |

ANALYSIS OF THE LITERATURE



PART I

HISTORY



CHAPTER I

ANCIENT GREECE AND ROME

1.1 REVIEW

Gowers 1950 (review of most sources). Günther 1967: 14 (summary). Keller 1909: 383-388. Killermann 1908: 581. Lach 1970: 158 (summary). Lenz 1856: 198 (sources cited). M. Ryhiner 1952. Steier 1895 (good succinct review). Stricker 1881. Toynbee 1973: 125-127, 368.

1.2 APPEARANCE

Aelianus, XVII.44 (horn sharp and hard; thick skin). Agatharchides, 71 (size, thick skin, colour, one horn). Aristoteles, Hist. Anim. 499b-19 ('Indian ass', one-horned and one-hoofed). Part. Anim. 663a ('Indian ass', one-horned, solid hoof). Dio Cassius, LI.22 (like elephant, with horn). Diodorus, III.35 (size, thick skin, colour, one horn). Martialis, XXII (double horn). Oppianus, II. Plinius, VIII. xxix (size, colour, one horn). Strabo, XVI.4, 15 (size, colour, one horn).

1.3 DISTRIBUTION

1.3.1 Reports from Africa

Agatharchides, 71 (around Red Sea). Herodotus, IV. 191 (horned asses in Scythia). Pausanias, IX. xxi (Ethiopia). Periplus, IV, VI (1980: 20, 22) (interior, occasionally around Adouli). Solinus, 43 (Ethiopia). Strabo, XVI.4, 15 (N.E. Africa).

1.3.2 Reports from India

Ctesias, 25 ('wild asses' in India: appearance, colour, virtues of horn; presence of ankle-bone and gall). Curtius, VIII. ix. 16 (India), IX. i. 5 (Persia). Diodorus, III.35 (India). Megasthenis, XV (one-horned horse in India). Philostratus, III.2 (1883: 109) (India, only hunted by king; virtue of horn). Pseudo-Callisthenes, III. 16-17 (1969: 126) (after victory against Darius, king of Persians, 'great rhinoceroses came forth from the forest of reeds').

1.3.3 Remarks

On Aelian: Beaveniste 1929 (Aelian's unicorn passage influenced by Indian rhinoceros).

On Ctesias: Ettinghausen 1950: 99 (first statement on antipoisonous virtue). Godbey 1939: 268. Heeren 1805: 965-969 (unicorn of Ctesias is Asiatic rhinoceros). Keller 1887: 186 (rhinoceros confused with '*Antilope picta*'). Lassen 1852: 646 (wild ass is rhinoceros). Laufer 1914: 90 n. 1, 97 n. 2, 154 n. 2. Steier 1895: 1781 (wild ass is rhinoceros with touches of other species; germ of unicorn legend). Wilson 1836: 48-55 (rhinoceros plus gorkhar).

1.4 HABITS AND LEGENDS

1.4.1 *Copulation*

Solinus, 30 (copulates backwards).

1.4.2 *Enmity with elephant*

Aelianus, XVII.44. Agatharchides, 71. Diodorus, III.35 (fight for pasture). Plinius, VIII.xxix. Solinus, 43. Strabo, XVI.4, 15 (fight for pasture, horn as weapon).

1.4.3 *Horn sharpening*

Aelianus, XVII.44. Agatharchides, 71. Diodorus, III.35. Plinius, VIII. xxix. Solinus, 43.

1.4.4 *Tossing of bear*

Martialis, XXII.

1.4.5 *Remarks*

Ettinghausen 1950: 76-90 (legends of movable horn, horn sharpening, enmity with elephant of Indian, not African, origia). Laufer 1914: 84 n.1 (horn sharpening). Scullard 1974: 227 (Aelianus on enmity with elephant).

1.5 EXHIBITION IN ROMAN CIRCUS

Athenaeus, V.201c (Alexandria, Ethiopian rhinoceros in procession for Ptolemaeus Philadelphus, 279/8 B.C.). Capitolinus, Ant. Pius, X.8-9 ('rhinoceroses' in Rome, 148-9). Capitolinus, Gord. III, xxxiii (one shown, April 248). Dio Cassius, LI.22 (one slain by Caesar, 29 B.C.). Lampridius, XXVIII.3 (one in Rome, described as 'Egyptian'). Martialis, IX, XXII (games of Titus, 80 A.D.). Plinius, VIII. xxix (one in games of Pompey the Great, 55 B.C.; it has 'often been seen'; 'another bred here to fight...'). Solinus, 43 (first rhinoceros in Rome during Gn. Pompejus). Suetonius, II.43, 3 (one at Saepta during reign of Augustus).

Remarks: Colesso 1701. Cuvier 1806: 26. Fitzinger 1836. Freytag 1747: 34. Godbey 1939: 266, 267. Gowers 1950. Hediger 1938: 1873 (Titus, 80). Houttuyn 1761: 330. Jennison 1937: 30, 54, 66, 72, 84, 86, 87, 90, 92. Keller 1887: 149 (Alexandria). Ladvocat 1749: 20. Laurie 1978b: 2. Loisel 1912, I: 92, 103-108. Oken 1838: 1189. Reynolds 1963a: 99 (black rhinoceros), 1971: 13. Toynbee 1973: 126.

1.6 TRADE

Iuvenalis, VII. 130 (horn used as oil-flask in Roman baths). Periplus, VI, XVII (1980: 22, 31) (export from Africa).

Godbey 1939: 263-265 (trade with Africa and China). Herrmann 1913: 556 (trade between China and Africa, or Huang-tschu). Warmington 1974: 162 (horn imported into Rome from India and Africa; also taken to China).

1.7 ART

1.7.1 *Review*

Sperlich 1961

1.7.2 *Piazza Armerina, Sicily (mosaic, N.W. of Syracuse)*

Gentili 1957: 221 ('hunters drag a rhino from an African swamp'). Sperlich 1961: 138 (Indian rhino). Toynbee 1973: 127, fig. 1 (African mosaicists, ca. 305 A.D.).

1.7.3 *Cameos*

Furtwängler 1896: 305, 311 (two cameos). Imhoof-Blumer & Keller 1889: 121, pl. XIX 46 (Berlin, 1 cameo).

1.7.4 *Coins*

Augustin 1587, pl. 63 (Domitian, two-horned rhinoceros). Camper 1782: 140 (Domitian). Gowers 1950: 69 (Domitian and Hadrian). Imhoof-Blumer & Keller 1889, Pl. IV 8 (Domitian). Lach 1970: 160 (Caracalla, one-horned rhinoceros). Mattingly 1976: 411, pl. 81. 16-17 (Domitian). Rookmaaker 1978b: 20 (Domitian). Sloane 1749: 124, figs. 6-7 (Domitian). Spanheim 1671: 137 (Domitian, with one-horned rhinoceros). Toynbee 1973: 126, pl. 52 (Domitian).

1.7.5 *Labicum, Thonlampe*

Keller 1887: 118, fig. 28. Laufer 1914: 85 n.1.

1.7.6 *Palestrina mosaic, Praeneste*

Barthelemy 1761: 592 ('l'arrivée de l'empereur Hadrian dans un canton de la haute Egypte'). Camper 1782: 141. Gowers 1950: 68. de Montfaucon 1757: 151, 159 (by Sylla). Shaw 1746: 91. Toynbee 1973: 126 (triumph in Fortuna temple, by Sulla). Volkman 1779: 336 (time of Hadrian).

1.7.7 *Perugia mosaic*

Gowers 1950: 68 (white rhinoceros from time of Augustus).

1.7.8 *Salmanassar II obelisk*

Benveniste 1909. Brentjes 1978: 151 (ox). Hilzheimer 1926: 166. Keller 1909: 386, fig. 133 (rhinoceros). Laufer 1914: 87 (rhinoceros). M. Ryhiner 1952: 66 (is rhinoceros).

1.7.9 *Tesserae*

Gowers 1950: 68 (rhinoceros is not Indian). Rostovtsev 1903 (some figured).

1.8 OTHER STATEMENTS

Horatius, I.5 (Sarmenus compares Meurius with a 'wild horse' with a horn). Lucilius, III.135 (mentions 'rhinoceros').

1.9 SPECIES KNOWN TO ROMANS

Gowers 1950 (most specimens shown in Rome were *Ceratotherium simum cottoni*). Jennison 1937: 34, 54, 74 (often Indian, sometimes African species). Loisel 1912, I: 136 (both one and two-horned species known). Rookmaaker 1978b: 20 (*Rhinoceros unicornis* and *Ceratotherium simum*). Toynbee 1973: 125-127 (both one and two-horned species known). Warmington 1974: 150 (both one and two-horned species known).

CHAPTER 2

MIDDLE PERIOD (400-1500)

2.1 REVIEW

d'Alès 1936 (on Tertullian and Justin, symbolism). Einhorn 1976 (on unicorn, occasional information on or parallels with rhinoceros study). Godbey 1939: 286-290. Sainéan 1921: 39 (names).

2.2 GENERAL SOURCES

Abelaerdus, col. 1806 (poem). Cosmas, XI, col. 441 (India and Ethiopia). Eucherius, p. 820 (double-horned rhinoceros distinct from monoceros). Eustathius, cols. 743, 955 (mentions monoceros). Gossoin 1913: 114 (a 'monoheros' among Indian animals - cf. Langlois 1911: 83). Isidorus, XII. ii. 12, 13 (rhinoceros is monoceron, captured by virgin). Jordanus 1863: 18 (rhinoceros of India is not unicorn). Langlois 1911: 35 (Bestiaire by Philippe de Taon, 12th century, describes monosceros). Photius, col. 477, cap. 36 (describes rhinoceros). Polo 1958: 188, 253 (unicorn in S.E. Asia). Tertullianus 1927: 144 (monoceros differs from one-horned rhinoceros; symbolism of unicorn). Timotheus of Gaza 1949:44 (chapter on rhinoceros, partly from Oppian).

2.3 TRANSLATION OF JOB 39 VERSE 9

Alanus, col. 927 (translates rhinoceros = unicornis). Augustinus, col. 881, cap. 39 (monoceros is unicornis). Bruno, col. 679, cap. 39 (translates rhinoceros). Gregorius, col. 571, cap. 31.2 (translates rhinoceros, with symbolism). Hieronymus, col. 1462, cap. 39 (translates rhinoceros = unicornis). Odonis, col. 461 (translates rhinoceros = monoceros). Rupertus, col. 1169 (translates rhinoceros; symbolism).

2.4 PHYSIOLOGUS

Carmody 1939: 31 (Latin physiologus, 4th century, chapter on Unicornis). Laufer 1914: 110-114. Maurer 1967 (German physiologus, chapter on unicorn). Strzygowski 1899: 18, 28 (Greek physiologus, ca. 1100, chapter on unicorn, taken from Cosmas).

CHAPTER 3

PUBLICATIONS BETWEEN 1500 AND 1800

3.1 CONTEMPORARY REVIEWS

Anon. 1765: 251. Aldrovandi 1621: 886-889, 1623: 190. Bochart 1663: 313. Freytag 1747. Gessner 1551: 956 ff., 1563. Gois (1566) 1955: 52. Jonston 1660: 79. Ladvoat 1749: 29. Mauro 1556: 246. du Molinet 1692: 192. Pennant 1771: 75, 1781: 136. Ruysch 1718: 66. Topsell 1607: 594. Vossius 1700: 378.

3.2 NAMES

Bruce 1790: 90. Buffon & Daubenton 1764: 174. Freytag 1747: 5-7. Gessner 1553: 30. Houttuyn 1761: 329. Klein 1751: 26. Kolb 1727: 189.

3.3 CLASSIFICATION

3.3.1 *Review*

Rookmaaker 1981, 1982.

3.3.2 *Interpretation of Martial's Epigram*

Review: Rookmaaker 1976b, 1981.

Bochart 1663: 313-315 (critical review; emendations of text). Calderinus & Merula 1601: 19 (rhino double-horned). Camerarius 1595: 6. Camper 1782: 135-140. Colesso 1701: 14. Duke 1739: 3. Freytag 1747: 23-26. Grew 1681: 30 (rhino cannot throw a bear). H.D. 1768. Parsons 1743: 536, 1766. Peyerus 1685: 43-46. Politianus 1524: 69. Raderus 1611: 56 (rhino double-horned). Scaliger 1576: 659. Schroeckius 1686. Scriberius 1629: 11 (ursum as 'urum'). Sloane 1749: 124, pl. 2. Vossius 1700: 378 (after Scriberius).

3.3.3 *Relation with unicorn*

Rhinoceros is unicorn: Duke 1739: 1. Kircher 1675: 59. Klein 1751: 29. Ladvoat 1749: 23-25 (rhino is a kind of unicorn).

Rhinoceros is not the unicorn: Andersen 1696: 11. Drusius 1636: 881. Franzius 1643: 73. Hoffmann (1680) 1931: 31. Hubrigk 1660, par. 13. Pare 1604: 625. Schoutens 1676: 124. Vater 1679, par. 8.

Remarks: Einhorn 1976. Günther 1967. Laufer 1914: 110-113 (unicorn not based on rhino). Lucas 1920: 534 (rhino horn used as that of unicorn). Shepard 1967.

3.3.4 *Translation of biblical passages*

Anon. 1780 (re'em is rhino). Barth 1747 (rhino in Job). Brentius 1527: 305 v-306r

(translates Rhinoceros). Bruce 1791: 87-92. Camper 1782: 141-145 (re'em is rhino). Deusingius 1659: 7. Drusius 1636: 881 (review). Houttuyn 1761: 327. Pererius 1606: 998 (Deut. 33, 'rhinoceros'). Reinhard 1748: 6 (Job's re'em is not rhino). Scheuchzer 1721: 388, 1731: 21 (Job 39, 'rhinoceros'). Schultens 1742: 267 (Job 39, *Bos sylvestris*, not rhino). Schultens & Muntinghe 1794: 171 (ox, not rhino). Shaw 1746: 91 (re'em is rhino).

Remarks: Anon. 1872: 314 (re'em is rhino). Godbey 1939 (rhino and unicorn in Bible and Talmud). Killermann 1908: 581. Layard 1849: 429 (interpretations of re'em). Lewysohn 1858: 149 (re'em in Talmud). Robin 1932: 74-80 (unicorn in Bible).

3.3.5 *Discussion on number of species*

Anon. 1814: 642. Allamand 1781: 10 (Cape rhino, double-horned). Barbier (1749) 1857, IV: 356 (sexual difference in number of horns). Barth 1747 (review on number of horns). Beckmann 1766: 129-131 (2 kinds). Boddaert 1785: 162 (Indian and African species). Brink 1778: 38 (constancy of double horn uncertain). Bruce 1790: 85, 1791: 105. Buffon 1778: 134 (number of horns variable). Buffon & Daubenton 1764: 186 (distinction on horns uncertain). Camper 1780, 1782 (Indian and African species). Cuvier 1797, 1798 (at least 2 species). Duke 1739: 4 (rhino single-horned, second horn is 'a redundancy in an individual'). Edwards 1758: 25 (double horn an accidental sport of nature or race). Freytag 1747: 23-30 (review). Gmelin 1767 (number of horns depends on age). J.F. Gmelin in Bruce 1791: 23 (probably one species). H.D. 1768 (existence of double-horned rhino). Houttuyn 1761: 329, 346 (African and Indian species). Jonston 1655: 98 (one or two horns). Kerr 1792: 113, 114 (R. unicornis and R. bicornis). Klein 1751: 30-32, 1760 (2 species or 2 varieties). Kolb 1719: 160, 1727: 189. Labat 1732: 169 (species according to number of horns). Lacépède & Daudin 1802: 39 (Buffon described R. unicornis and R. bicornis). Ladvocat 1749: 12, 31 (2 species). Linnaeus 1758: 22 (R. unicornis and R. bicornis), 1766: 104 (one species with 2 varieties). Merck 1786. Meijer 1793: 104 (2 kinds). Pallas 1769: 451, 1780 (discussion on number of species). Parsons 1743: 537, 1766 (2 kinds). Pasteur 1793: 50 (both sexes have two horns). Pennant 1771: 75, 1781: 136-140 (African and Indian species). Shaw 1800: 198-207 (single-horned, double-horned and Sumatran species). Sloane 1749: 119.

3.4 MORPHOLOGY

3.4.1 *Description of appearance, 16th century*

Aneau 1552: 17 (see Nais 1961: 251). Camerarius 1595: 5. Cardanus 1559: 404. da Cruz (1569-70) in Boxer 1953: 77. Gessner 1551: 956-958. Jovius 1571: 362. Munster 1554: 1086. Pare 1573: 577. Rabelais (ca. 1550) in Sainéan 1921: 38. Salomon 1943: 498. de Sande 1590: 208. Scaliger 1576: 659. Thevet 1557: 40. Varthema (1510) 1928: 22.

3.4.2 *Description of appearance, 17th century*

Andersen 1696: 11. von der Behr 1689: 30 (after Merklein). le Blanc 1654: 137. Boillot 1604. Bontius 1642: 16, 1658: 50. Calderinus & Merula 1601: 11. Dapper 1668: 21. Deusingius 1659: 7. de Flacourt 1661: 394. Franzius 1643: 73. Gervaise 1688: 33. Grew 1681: 29. Hoffmann (1680) 1931: 31. Hubrigk 1660, par. 13. Jonston 1632: 327. van Linschoten 1644: 70. Lonitzer 1679: 609. Merklein (1663) 1930: 13. Nieuhof 1665: 93. Pare 1604: 625. Pererius 1606: 998. Pomot 1694: 26. Ray 1693:

122. Saar 1672: 19 (after Merklein). G. Schott 1662: 1084. Schoutens 1676: 124. Schreyer (1681) 1931: 26, 59. Schroeckius 1686. Tachard 1687: 76. Topsell 1607: 594. Valerianus 1631: 26. Worm 1655: 336.

3.4.3 *Description of appearance, 18th century*

Anon. 1777: 399-407. Allamand 1781, 1782, 1785 (Cape). Barth 1747. Bell 1793 (Sumatra). Biron 1703: 183. Boddaert 1785: 162 (R. unicornis, R. bicornis). Buffon 1778: 133. Buffon & Daubenton 1764: 174-191. Bonannius 1773: 16. Brink 1778: 37 (Cape). Brisson 1756: 113. Bruce 1790: 93-95. Camper 1780, 1782 (Cape rhino, head and skull). Chardin 1711: 45. Duke 1739: 4-8 (after Grew). Edwards 1758: 24. Freytag 1747: 12-30 (from older authors). Hamilton (1727) 1930: 16. Houttuyn 1761: 329, 330-349. Klein 1751: 26-28. Kolb 1719: 159, 1727: 189. Labat 1732: 169. Ladvoat 1749: 3-8. Leguat 1708: 146. Levaillant 1795, III: 57. Linnaeus 1758: 56. Lobo 1728: 230. Mentzel (1785) 1921: 27. Pallas 1769: 451-455. Parsons 1743: 529-536; 1766 (horn). Pennant 1771: 75, 1781: 136, 138. J. Ray in Derham 1718: 262 (quadrisule). Scheuchzer 1721: 389. Schwartz 1751: 51. Sparrman 1778, 1779, (1787) 1977: 80-87 (Cape). Thunberg 1792: 262 (Cape). Turpin (1771) 1811: 619. Vogel 1716: 329.

3.4.4 *Impenetrable skin*

Biron 1703: 184. Bontius 1642: 16, 1658: 50. Buffon & Daubenton 1764: 185, 195. Dapper 1668: 21. de Flacourt 1661: 395. Gervaise 1688: 34. Hoffmann (1680) 1931: 31. Nieuhof 1665: 93. Pennant 1771: 75. van Riebeeck 1952, I: 268. Shaw 1800: 200. Sparrman (1787) 1977: 87-89. Tachard 1687: 77.

3.5 DISTRIBUTION

3.5.1 *Reports from Asia, 16th century*

Roger Barlow (1541) in Taylor 1932: 112 (India). Gaspar da Cruz (1569-70) in Boxer 1953: 77 (Cambodia). Nicolo Conti (15th century) in Major 1857: 13 (India). Juan Gonzalez de Mendoza (1585) in Staunton 1854: 311 (Cambodia). Munster 1554: 1086 (India). da Orta (1563) 1895: 74 (India). Thevet 1575, I: 403a ('Royaumes de Camut & Macim').

3.5.2 *Reports from Asia, 17th century*

Andersen 1696: 11 (Java, Sumatra, Bengala, Siam). von der Behr 1689: 30 (Java). le Blanc 1654: 137 (Bengale, Patane, Macharane). Bontius 1642: 16, 1658: 50-52 (Java). Borri 1633, cap. 4 (Cochin-China). Choisy 1687: 290, 369 (Conresama, Siam). Dapper 1670: 230 (Suchuen, Quang Si). Gervaise 1688: 33 (Siam). Godinho de Eredia (1613) 1882 (Malacca). van Goens (1656) 1856: 313 (Java). Grew 1681: 30 (Bengale, Patane). Herport (1669) 1930: 31 (Java). Jacobaeus 1696: 4 (Bengala, Cambaja, Malacca, Sumatra, Siam). Jonston 1655: 98. van Linschoten 1644: 70 (Patane, Bengal). Merklein (1663) 1930: 13 (Java). Nieuhof 1665: 93 (Suchuen). Olearius 1696b: 144, 147 (Java). Philippe 1669: 371 (Bengale). Pyrard 1619, I: 354 (Bengal). Gabriel Quiroga (1604) in Cabaton 1914: 94 (Cambodia). Ray 1693: 123 (Bengale, Patane). Saar 1672: 19 (Java). Schoutens 1676: 124 (Patane, Queda, Perach, Java, Bengal). Tavernier (1676) 1977, II: 225 (Siam), 250 (Achin). de Thevenot 1666: 25 (India). de Vries 1682: 1200 (Java).

3.5.3 *Reports from Asia, 18th century*

Bell 1793 (Sumatra). Bruce 1790: 86 (India). Buffon & Daubenton 1764: 190 (Bengal, Siam, Laos, Mogol, Sumatra). Carletti (1701) 1964: 159 (Cochinchina). Duhakle 1736: 243 (Quang Si). Duke 1739: 4 (Bengal, Patava, Jacatra). Freytag 1747: 7-12 (Bengal, Cambaia, Patane, India, Assam). Houttuyn 1761: 330 (East Indies, China, Great Mogol, Bengal, Borneo, Sumatra, Java). Kerr 1792: 113 (Bengal, Siam, Cochinchina, China, Java, Sumatra). Ladvoat 1749: 10 (different countries). Leguat 1708: 93 (Java). Linnaeus 1758: 56 (India). de Mandelslo 1727: 376 (Java, Bengal, Patane). Pennant 1771: 76, 1781: 139 (different countries). de Rennefort 1702: 482 (terres de Mogol). Rumphius 1705: 294 (Java). Schwartz 1751: 51 (Java). Turpin (1771) 1811: 329 (Sumatra). Zimmermann 1777: 377 (different countries).

3.5.4 *Reports from Africa, 16th-17th centuries*

Review: Forbes 1977: 35 (van Riebeeck, van der Stel). Raven Hart 1971, *passim* (17th century authors).

de Choisy 1687: 339 (Cape). de Flacourt 1661: 395 (Cape). Frik 1692: 33 (Cape, export ban). Herport (1669) 1930: 21 (Cape). Hoffmann (1680) 1931: 31 (Cape). Jonston 1655: 98. Ludolfus 1681, pars. 78, 79 (Aethiopia). Nieuhof 1682: 6 (near Cape). Ray 1693: 123 (Africa, Abassia). van Riebeeck 1952-57, I: 68, 169, 268, II: 182, III: 470 (Cape). Schreyer (1679) 1931: 26 (Cape). Tachard 1687: 76 (Cape). Thevet 1557: 40 (Cape of Good Hope).

3.5.5 *Reports from Africa, 18th century*

Anon. 1777: 400 (Cape, after Kolb). Allamand 1781: 9, 1785: 2, 5 (150 miles from Cape). Beekman 1718: 179 (Cape). Bogaert 1711: 104 (Cape). Brink 1778: 38 (Cape). Browne 1799: 260 (Sudan). Bruce 1790: 86 (Ethiopia). Buffon & Daubenton 1764: 191 (Abissinie, Ethiopie, Cape, country of Anzicos). Camper 1780: 193, 1782 (Cape). Freytag 1747: 9 (Aethiopia). Houttuyn 1761: 330 (Africa, Abyssinia, Ethiopia). Kerr 1792: 114 (Africa). Kolb 1719: 159, 1727: 189 (Cape). Labat 1732: 169 (Ethiopie, Congo). Ladvoat 1749: 10, 31 (Abyssinie, Cape). Leguat 1708: 145 (Cape). Levaillant 1795, III: 56 (Cape). Linnaeus 1758: 56 (Africa). Lobo 1728: 69 (Abissinie). Mentzel (1785) 1921: 25, 27 (Cape). Pasteur 1793: 152 (Cape, Abyssinia). Paterson 1790 (Cape, cf. Forbes & Rourke 1980). Pennant 1771: 76, 1781: 136 (Angola, Aethiopia, Cape). de Rennefort 1702: 306 (Cape). Sparrman (1787) 1977: 76-92 (Quammedacka). Thunberg 1792: 261 (Cape). Wintergerst (1712) 1932: 18 (Cape). Zimmermann 1777: 377 (different countries).

3.6 SPECIMENS IN MUSEUMS AND CABINETS

Unknown collection: Camper 1782: 152-155 (different specimens, mainly in Holland). Gmelin 1767 (Holland, skeleton). Klein 1751: 31 (Europe, horns). Kolb 1727: 189 (horn brought home). Parsons 1766 (London, double horn). Phipson 1883: 113 (description by Heywood 1638 of mounted rhino in pageant). Rookmaaker 1978b: 31 (England, ca. 1740).

Amsterdam: Jacobaeus 1910: 27 (one seen).

Augsburg: J.G. Micheli: Schroeckius 1686: 468 (double horn).

Cape Town, Fort: Beekman 1718: 179. Hesse 1690: 30. Nieuhof 1682: 7. Schoutens 1676: 124. Wintergerst (1712) 1932: 19. (All referring to mounted animal.)

Copenhagen: Christian V: Jacobaeus 1696: 4.

Danzig: Lehmann: Houttuyn 1761: 348. Klein 1751, fig. 1 (double horn).

- Darmstadt*, J.H. Merck: Merck 1786 (skull D. bicornis).
- Delft*, Theatrum Anatomicum: Houtzager 1979: 57-61 (mounted rhino, arr. 1662, since 1667 leased to 2 men from Amsterdam). Jacobaeus 1910: 84.
- Florence*, Museum de Medici: Shufeldt 1893: 371 (16th century specimen, now museum Florence).
- Groningen*, University (from P. Camper): A. Camper 1809, 1811. Camper 1780: 193, 1782: 130. Merck 1786. Rookmaaker & Visser 1982 (horns described by Camper now unknown).
- Leiden*, J. Swammerdam: Swammerdam 1679: 36 (horns, teeth).
- Leiden*, University: Barge 1934: 58 (head of young rhino, Theatrum Anatomicum, 1622-1628). Gmelin 1767 (3 skulls). Rookmaaker 1976a: 88 (young rhino, arr. 1677, present 1739).
- London*, R. Mead: Sloane 1749: 124 (double horn).
- London*, Royal Society: Grew 1681: 29-31. Rookmaaker 1978b: 31 (skin possibly R. sondaicus).
- London*, H. Sloane (British Museum): Brooks 1954: 198, 200. Pennant 1781: 136, 138. Sloane 1749: 118 (double horn).
- Paris*, Cabinet du Roi: Buffon & Daubenton 1764: 189, 204-210.
- Paris*, St. Geneviève: Biron 1703: 184. du Molinet 1692: 192.
- Rome*, Museum Kircherianum: Bonannius 1773: 14 (horn).
- Rome*, Moscardo: Moscardo 1672: 243 (horn).
- Uppsala*, Royal Academy of Sciences: Sparrman (1787) 1977: 83 (horns).
- Vienna*, Rudolf II: Bauer & Haupt 1976: 4, 5, 141 (horns in 1607).

3.7 HABITS AND LEGENDS

3.7.1 Copulation

Buffon & Daubenton 1764: 184 (backwards). Camper 1782: 171-173 (not retromingens). Gessner 1551: 937 (coitus aversus). Ladvocat 1749: 6 (no generatio spontanea, against Oppian). Sparrman 1779.

3.7.2 Edibility of meat

Allamand 1785: 5. Bruce 1790: 104. Buffon & Daubenton 1764: 192. Houttuyn 1761: 351. Kolb 1727: 189. Ladvocat 1749: 15. Levaillant 1795, III: 60. Pennant 1771: 76.

3.7.3 Enmity with elephant

Aneau 1552: 17. Andersen 1696: 11. Boerhaave 1737: 153. Boillot 1604. Borri 1633, cap. 4. Buffon & Daubenton 1764: 193. Camerarius 1595: 6. Calderinus & Merula 1601: 11. Camper 1782: 174 (incorrect). Cardanus 1559: 404. Deuslingius 1659: 9. Duke 1739: 8. Ferro 1623, II: 49. Franzius 1643: 74. Freytag 1747: 30. Gessner 1551: 958. de Gois (1566) 1955: 54. Goldsmith 1816: 359. Houttuyn 1761: 332-334. Jonston 1632: 327. Jovius 1555: 51, 1571: 362. Kircher 1675: 59. Kolb 1727: 189. Ladvocat 1749: 16-18. Lobo 1728: 69, 230. Lonitzer 1679: 609. Maffei 1590: 234. du Molinet 1692: 193. Munster 1554: 1086. Pare 1573: 577. Pennant 1771: 76. Pererius 1606: 998. Petri 1723: 121. Pomet 1694: 26 (plate p. 24). Schoutens 1676: 125. Thevet 1557: 40. Turpin (1771) 1881: 619. Valerianus 1631: 26. Vogel 1716: 330. Vossius 1700: 378.

3.7.4 Food

Barth 1747: 3. Bontius 1642, 1658: 51 (thorns, no meat). Bruce 1790: 95, 1791: 105. Buffon & Daubenton 1764: 193. Camper 1782: 176. Duke 1739: 8. Houttuyn 1761: 332. Kolb 1727: 189. Ladvocat 1749: 10. Nieuhof 1665: 93 (thorns). Parsons 1743: 529. Pennant 1771: 76, 1781: 137. Peyerus 1685: 46 (ruminating uncertain). Ray 1693: 123 (probably not ruminating). Vogel 1716: 329.

3.7.5 Friendship with tiger

Bontius 1642: 16, 1658: 50, 52. Buffon & Daubenton 1764: 193. Duke 1739: 10. Goldsmith 1816: 359. Pennant 1771: 76. Vogel 1716: 329. de Vries 1682: 1200 (after Bontius).

3.7.6 Horn sharpening

Aneau 1552: 17. Boillot 1604. Calderinus & Merula 1601: 11. Jonston 1632: 327, 1655: 98. Lonitzer 1679: 609. Munster 1554: 1086. Pare 1573: 577. Schoutens 1676: 125. Valerianus 1631: 26.

3.7.7 Insects in folds of skin

Edwards 1758: 26. Pennant 1771: 76, 1781: 139.

3.7.8 Licking of enemies with tongue

Allamand 1785: 5 (incorrect). Bontius 1642: 16, 1658: 51. Bruce 1790: 97 (soft tongue). Camper 1782: 177 (incorrect). Dapper 1668: 22. Goldsmith 1816: 359. Ladvocat 1749: 6, 11. Nieuhof 1665: 93. Pennant 1771: 76 (doubtful). Peyerus 1685: 46.

3.7.9 Longevity

Houttuyn 1761: 338. Ladvocat 1749: 8.

3.7.10 Ploughing of ground with horn

de Choisy 1687: 339. Tachard 1687: 77.

3.7.11 Precedence at waterhole

Andersen 1696: 11. van Linschoten 1644: 70. Pyrard 1619, I: 354.

3.7.12 Senses

Allamand 1781: 11, 1785: 4. Buffon & Daubenton 1764: 196. Houttuyn 1761: 336. Pennant 1781: 137.

3.7.13 Temperament

Bontius 1642: 16, 1658: 51 (attack in Java). Camper 1782: 176. de Choisy 1687: 339 (dangerous). Deusingius 1659: 9 (gentle unless angry). Gervaise 1688: 33. Houttuyn 1761: 336-338. Nieuhof 1665: 93 (gentle unless angry). Pennant 1771: 76. Pomet 1694: 26 (gentle). Saar 1672: 19. Schott 1662: 1084 (after Bontius). Schoutens 1676: 124. Shaw 1800: 200. Tachard 1687: 76 (malicious). Valerianus 1631: 26.

3.7.14 Voice

Allamand 1785: 9. Kolb 1727: 189. Ladvocat 1749: 9. Pennant 1771: 76.

3.7.15 *Wallowing*

Bruce 1790: 99-101. Buffon & Daubenton 1764: 190. Pasteur 1793: 141. Pennant 1771: 76.

3.8 VIRTUE OF RHINOCEROS PARTS

Allamand 1781: 11 (antipoisonous virtues incorrect). Andersen 1696: 12 (horn against poison). Biron 1703: 184 (medicine). Brink 1778: 38. Browne 1799: 261 (carried to Egypt, used for sabre-hilts and antidote against poison). Buffon & Daubenton 1764: 188, 192 (horn against poison and as medicine). Camper 1782: 156 (antipoisonous). Chardin 1711: 45. de Choisy 1687: 369 (rhino horns from Siam 'dont l'une vient d'un buffle'). Gervaise 1688: 34. Grim 1677 (successful use of horn to cure knee wound of R. van Goens). Hoffmann (1680) 1931: 31. Houttuyn 1761: 345, 351 (medicine, against poison). Kolb 1727: 189 (powder made from skin as medicine). Labat 1732: 170 (Africa, medicine and against poison). Ladvoat 1749: 14-16 (in India and Aethiopia). van Linschoten 1644: 70. de Mandelslo 1727: 377 (Java, use of flesh, blood, horn, teeth, skin and dung as medicine and against poison). Marggraf 1758 (salt made from skin, composition). Mentzel (1785) 1921: 28 (not antipoisonous). du Molinet 1692: 193. Pennant 1771: 76, 1781: 140 (India, horn medicinal and antipoisonous). Philippe 1669: 371 (discovers poison; often brought to Goa). Pomet 1694: 26. Redi 1671: 98, 1687: 113 (blood, horn and skin useless as medicine). Rumphius 1705: 294 (stone from brain against fever). Saar 1672: 19. Sloane 1749: 118 (stone from stomach or intestines). de Thevenot 1666: 25. Thunberg 1792: 261 (horn cups, no virtue). Turpin (1771) 1811: 620 (Siam).

3.9 CAPTURE AND TAMING

Allamand 1781: 12 (doubtful about taming). Bruce 1790: 102 (Chardin incorrect). Buffon 1778: 134. Buffon & Daubenton 1764: 189. Chardin 1711: 45 (tamed by 'Abessins', used for working). Goldsmith 1816: 361. Houttuyn 1761: 334-336 (capture). Ladvoat 1749: 18, 32 (capture by virgin). Schreyer (1679) 1931: 29 (traps by Hottentots).

3.10 THE FIRST LISBON RHINOCEROS 1515

3.10.1 *History - sources*

Albuquerque 1884a: 104; 1884b, 1898: passim. de Barros (1628) 1945: 422. Cardanus 1559: 404. de Cobarruvias 1611: 112r. Correa 1860: 373. Gessner 1551: 596. de Gois (1566) 1955: 55. Jovius 1555: 50, 1571: 362-364. Maffei 1590: 234. Moscardo 1672: 243 (stranded in Italy). Munster 1554: 1086. da Orta (1563) 1895: 75. Penni 1515. Sanfelicius 1571. Scaliger 1576: 659.

3.10.2 *History - remarks*

Review: da Costa 1937. Dodgson 1938: 46-51. Lach 1970: 161. Rookmaaker 1973c: 39-44.

Remarks: Anon. 1855 (after de Gois), 1872: 315. Barrington 1803: 253. Beckmann 1766: 39. Boerhaave 1737: 154. Browne 1896: 3 (after Shufeldt). Buffon & Daubenton 1764: 190. Buys 1978: 106. Camper 1782: 137. de Castanheda 1833: 450-452 (arr. 1515). de Castilho 1956: 172. Clarke 1973: 2-3, 1975b: 35, 1976: 4. Cole 1953: 339. Coste 1946: 118. Dembeck 1965: 279. S. Dittrich 1975. Dodgson 1903: 307. Duke 1739: 4. Fitzinger 1836. Freytag 1747: 32, 36. Gowers 1952: 288. de

Gubernatis 1867: 168-171, 1875: 389-392 (letter by Valentino Marovia to Neuremberg 1515, in Italian; cf. da Costa 1937: 33-40). Hébert 1969: 143. Hediger 1938: 1872. Houtzager 1979: 57. Hufnagel 1873. Jeannin 1951: 128, 1962. Klein 1751: 28. Laufer 1914: 83-84. Laurie 1978b: 3. Lehmann 1952: 62-64. Lloyd 1971: 40 (arr. 1517). Loisel 1912, 1: 217-219. de Matos 1960: 387-390. Naïs 1961: 147. Oken 1838: 1190. Ortelius 1887: 637 (anagram by Corcuius). Pasteur 1793: 141. Petri 1723: 121. Ravenstein 1908: 2. Reinhard 1748: 6. Reinhardt 1912: 749. Reynolds 1971: 13. Rieth 1974: 85. Rookmaaker 1980a: 67, 1982: 5. Ruffi 1696: 300 (Marseilles, 22 Jan. 1516). M. Ryhiner 1952: 67. Salomon 1943: 499-501. Scheuchzer 1721: 389. Schneider 1959. Shufeldt 1893: 371 (specimen in Florence since 16th century). Stricker 1881. de Vaissière 1897: 193 (Marseilles 1516-17). Yule & Burnell 1903: 363.

3.10.3 *Illustrations published before 1800*

Review: Cole 1953. Coste 1946.

Andreini 1617: 36 (in paradise). Bartholinus 1678: 172. von der Behr 1689: 1. Beslerus 1642, frontispiece. Boillot 1604. Bolling 1678, frontispiece. Gessner 1551: 957, 1553: 30. Guiard de Servigné 1750, frontispiece. Herport (1669) 1930, facing p. 20. Jonston 1655, pl. 38. Kircher 1675: 59 and following p. 116. Kolb 1719, pl. 4, 1727, I, facing p. 189. Ladvoat 1749, pl. 2. Leguat 1708, facing p. 146 (5 different rhinos). Lonitzer 1679: 609. Munster 1554: 1068, 1086. Nestor 1564: 174. Nieuhof 1665 (2): 93, 1682, map. Pare 1573: 578, 1604: 625. Penni 1515: 4. Petrasancta 1687: 36. Petri 1723, facing p. 120. Piso 1658 (see Bontius 1658), frontispiece. Pomet 1694: 24. Scheuchzer 1731, pl. 21. Schott 1662, pl. 47 facing p. 1084. van Sichem 1739: 10. Tachard 1687, facing p. 88. Tempesta 1650, fig. 85. Thevet 1557: 41; 1558: 41 (different from 1557), 1575: 403. Topsell 1607: 595. Valentini 1714, frontispiece (after Leguat). Valerianus 1631: 26.

3.10.4 *Iconography of Dürer's rhinoceros*

Review: Clarke 1973. Cole 1953. Coste 1946. Lach 1970: 162-168. Rieth 1974: 85-88.

Remarks: Armand 1879: 101 (emblem of Alessandro de Medici). Brentjes 1978: 150-152 (Dürer, Meissen porcelain 1732, Pompei rhino after Dürer). Buys 1978: 106 (Dürer, Gessner, Rubens, Barlow, cup Schloss Ambras). Camerarius 1595: 5 (emblem Alessandro de Medici). Chartrou 1928: 113 (entrée Henri II, Paris 1749). Clarke 1975a, 1975b: 35-37 (Meissen porcelain, 18th century), 1976: 4-7 (ceramics). da Costa 1937: 22-26 (Dürer). David 1913 (Pompei rhino after Dürer). Dembeck 1965 (Dürer). T. Dickinson 1929 (crest of weapon of Society of Apothecaries in England, 17th century). S. Dittrich 1975. Dodgson 1903: 307, 1938: 51-55 (states of Dürer's woodcut). Einhorn 1976, fig. 27. von Erffa 1965: 93, fig. 27 (Pisa Dom, 1602; emblem of Alessandro de Medici). Ferro 1623, II: 49 (emblem of Alessandro de Medici). George 1969: 130, 148 (maps). Gowers 1950: 67 (Pompei rhino is classical), 1951 (Pompei rhino after Dürer), 1952: 288. Hébert 1969 (triumph Henri II, Paris 1749). Hediger 1938: 1872, 1949: 85, 1970. Heikamp 1980: 302-307. Honour 1975, nos. 81, 87 (symbol of America). Iversen 1961: 81, pl. 13 (Paris 1749). Jarry 1959 (gobelins 'Les Indes', 18th century). Jovius 1555: 50 (emblem of Alessandro de Medici). Keller 1909: 387 (head in Rome's Thermenmuseum from Forum Trajanum). Killermann 1908: 580, 1910: 85. Lang 1961b: 370, fig. 2 (Pisa Dom). Laufer 1914: 77-79 (Ferdinand Verbiest, 1659), 84 (Dürer), 85 n. 2 (Pompei rhino after Dürer). Marlier 1966: 351, fig. 293. de Matos 1960: 388. Mauro 1556:

246 (Pompeï rhino is classical). Naïs 1961: 92 (Dürer's woodcut in Bibliothèque Du Prat). Nestor 1564: 174, 193 (emblem of Alessandro de Medici). Palm 1956 (Tunja, Columbia). Pluis et al. 1974: 11, 12, 31, 107 (Dutch tiles; A. de Bruijn 1583). Reinach 1913 (Pompeï rhino after Dürer). Roethlisberger 1967: 109, fig. 11 (Belgian tapestry, early 17th century). Rookmaaker 1973c: 41-44; 1976: 89 (Barlow 1684), 1978b: 20-22, 1981: 111. M. Ryhiner 1952: 68. Sainéan 1915: 218, 1921: 38, 1922: 22, 41, 1927: 36, 81 (Rabelais saw living rhino at Kleberger's in Lyons). Sainéan 1922: 22 (triumph Henri II, 1549). Salomon 1943 (Rabelais saw Dürer's woodcut at Hans Kleberger in Lyons). Sperlich 1961 (Italian sculptures). Spinazzola 1913a, b (Pompeï rhino after Dürer). Swaen 1940: 37 (Leguat's illustration after Tachard). Taylor 1955: 55 (Barlow). Toynbee 1973: 126 (Pompeï rhino is classical).

3.10.5 *Other plates of 1515 rhinoceros*

Clarke 1974: 113 (Burgkmair). Dodgson 1938: 55 (Burgkmair). Ehlers 1917: 168 (Aldorfer, Gebetbuch). Killermann 1910: 85 (Aldorfer). Lach 1970: 162, 170. Rieth 1974: 86 (Aldorfer, Burgkmair). Rookmaaker 1973c: 44, fig. 2 (Burgkmair).

3.11 THE SECOND LISBON RHINOCEROS 1579

3.11.1 *History - sources*

le Blanc 1654: 137 (Madrid, eyes put out). de Caverel 1859: 301, 303 (Lisbon, 1582). de Cobarruvias 1611: 112r. van Linschoten 1644: 70 (Madrid, 1581). de Mendoza (1584) in Staunton 1854: 312 (Madrid). du Molinet 1692: 193. de Sande 1590: 208 (Madrid). Sasseti 1855: 133 (letter Lisbon, 15 Feb. 1579).

3.11.2 *Illustrations published before 1800*

Camerarius 1595, pls. 4, 5. Ferro 1623, II: 49 (after Camerarius).

3.11.3 *History and iconography*

Camerarius 1595: 6, 7 (engravings after Galle). de Castilho 1956: 173. Clarke 1974: 113, 1975a, 1975b: 36 (Galle 1596, Collaert 1612), 1976: 7. Heikamp 1980: 307. Jahn 1970 (drawing Lazarus Roeting, Lisbon). Lach 1970: 169. Llopis 1974a: 28 (Madrid). du Molinet 1692: 193 (Galle). Pinto et al. 1942: 146 (Madrid 1584). Pluis et al. 1974: 21, 70 (Collaert 1612, on Dutch tiles). Rookmaaker 1973c: 44, 1978b: 22 (drawings after Galle), 1980a: 67.

3.12 THE FIRST LONDON RHINOCEROS 1684

3.12.1 *History - sources*

Evelyn (1684) 1955: 389-390 (London, October 1684). Pomet 1694: 26 (seen by friends in London). Ray 1693: 123 (England 1684-85). Scheuchzer 1721: 389 (England 1684-85).

3.12.2 *History and iconography*

Altick 1978: 37 (London August 1684 - September 1686). Beckmannus 1766: 39. Camper 1782: 138. Clarke 1974: 114, 1975a, 1976: 9. Duke 1739: 4. Fitzinger 1836. Gowers 1952: 288. Houttuyn 1761: 331. Klein 1751: 28, 1760: 32. Newdigate-Newdegate 1901: 245 (summer 1684, sold to Langley £2320). Oken 1838: 1193. North 1826: 168-169 (visit by Dudley North). Parsons 1743: 523. Pasteur 1793: 141.

Reinhard 1748: 6. Rookmaaker 1973c: 45, 1978b: 23, 1980a: 68. M. Ryhiner 1952: 69.

3.13 THE SECOND LONDON RHINOCEROS 1739

3.13.1 *History - sources*

Beckmannus 1766: 39. Buffon & Daubenton 1764: 179 (after Parsons). Camper 1782: 138. Dryander 1796: 65 (illustrations). Duke 1739: 4, 11. Klein 1751: 28, 1760: 32. Meijer 1750, pls. 29, 30 (after Parsons). Otto 1788: 176, 199 (Meijer's figures after Parsons). Parsons 1743: 523, 527 (London, from 24 June 1739). Pasteur 1793: 141.

3.13.2 *Illustrations published before 1800*

Duke 1739, pl. 1. Parsons 1743, pls. 1, 2; 1747, pls. 1, 2; 1760, pls. 1, 2. Shaw 1746: i (after Parsons). Meijer 1750, pls. 29, 30 (after Parsons).

3.13.3 *History and iconography*

Chenu & Desmarest 1858: 3. Clarke 1974: 115. Duncan 1892: 323. Dryander 1796: 65. Fitzinger 1836, 1860: 50. Gowers 1952. Loisel 1912, II: 17. Oken 1838: 1194. Rookmaaker 1973c: 46, 1978b: 19, 23-30, 1980a: 78.

3.14 THE DUTCH RHINOCEROS 1741-1758

3.14.1 *History - sources*

Anon. 1751, 1780: 266. Albinus 1747, pls. 4, 8 (Leiden 1742). d'Argenson 1863: 485 (Lyons 1749), 1864: 77 (shipwreck near Rome, 1749). Barth 1747 (Regensburg 1747). Beckmannus 1766: 39. von Bergen 1746 (Frankfurt/Oder 1746). van Berkhey 1784: 48 (Holland, 1758). Bonannius 1773: 16 (Rome, 1750). Buffon & Daubenton 1764: 179, 190, 198-203, pl. 7 (Paris and Italy 1749). Camper 1782: 139, 147, 176 (Holland 1748), 1767: 6-7 (critique of plate by Albinus). Coyer 1769: 181 (Paris 1749, fashion 'en rhinocéros'). Dryander 1796: 65 (illustrations). Edwards 1758: 24, fig. 221 (London 1752). Freytag 1747: 3 (Leipzig 1747). Guiard de Servigné 1750 (Paris 1749). Houttuyn 1761: 331, 334. Klein 1751: 28, 1760: 32 (Danzig, 1754). Ladvoat 1749: 3, 7, 10 (Stuttgart 1748, Paris 1749). Mentzel (1785) 1921: 27 (Berlin, Breslau 1746-47). Parsons 1743: 1747: 3 (introduction by editor, not yet seen in Neuremberg), 1760: 254 (Paris 1749). Pasteur 1793: 141. Ridinger 1768, pl. 53 (Augsburg 1748).

3.14.2 *Illustrations published before 1800*

Albinus 1747, pls. 4, 8. Bonannius 1773 (in Rome?). Brink 1778, pl. facing p. 36 (after Buffon). Buffon & Daubenton 1764, pl. 7 (Paris 1749). Edwards 1758, fig. 221. Freytag 1747, frontispiece. Ladvoat 1749, pl. 1. Parsons 1760, pl. 1^a. Ridinger 1768, pl. 53. Shaw 1800, pl. 60 (after Edwards). Tasso 1784, facing p. 139 (after Buffon, reproduced in Rookmaaker 1982: 10).

3.14.3 *History and iconography*

Review: Clarke 1974: 116-120, 1975a, 1976: 9-15. Emmerig 1978 (medals and engravings, itinerary). Faust 1976. Rookmaaker 1973c: 46-56.

Records: Barbier 1857, IV: 356 (Paris 1749). Barrington 1803: 253. Beyerinck &

de Boer 1935: 91 (Amsterdam 1741). Brod 1958 (Würzburg 1748, Vienna 1751). Chenu & Desmarest 1858: 3, 8 (London 1741, Paris 1749, drowned Italy). Clarke 1975b: 37 (Dresden 1747, London 1751). Coste 1946: 125-127. Cuvier 1806: 28 (Paris 1749). Dash 1861: 2 (Paris 1750, fashion 'à la rhinocéros'). Dembeck 1965: 285 (Ridinger). Doran 1876: 302 (Florence 1750). Dryander 1796: 65 (drawings). Duncan 1892: 323 (Paris 1749). Fiocco 1929: 77, pls. 86, 87A (Venice 1751). Fitzinger 1836 (Paris 1749, Vienna 1750), 1860: 50 (1746-1752). Gee 1952b (coin 1748). Gleiss 1967: 42 (Breslau 1746). Giese 1962: 49 (Vienna 1750). Goldsmith 1816: 360 (London, 18 years old). Gowers 1952: 289. Hediger 1938: 1872 (Leipzig 1747), 1949: 86, 1970: 101 (Stuttgart 1748), 1977: 9 (Zürich 1748). Heikamp 1980: 309-319. Houtzager 1979: 59. Hufnagel 1873 (Frankfurt/Oder 1747). Killermann 1908: 582 (Regensburg 1746). Kourist 1976: 37 (Ridinger). Kramer 1756: 317 (Vienna 1750). Kroker 1890: 126 (Leipzig 1747). Krumbiegel 1962 (Venice 1751 possibly *R. sondaicus*, Stuttgart 1747). Laufer 1914: 85 note 2. Lehmann 1952: 64-66. Levey 1956: 72-74 (Venice 1751). Loisel 1912, II: 11, 50, 278. Molmenti 1885: 383 (Venice 1751). Muller 1876, no. 3786 (poster 1747). Oken 1838: 1194. Petzsch 1930: 140 (Stuttgart, coin 1748), 1935 (history 1747-48), 1954 (Dresden, Leipzig 1747), 1961. Punt 1977: 340 (Holland 1741, rhino in Albinus a symbol of *vis vitalis*). Reinhardt 1912: 751. Rieth 1974: 88, fig. 13 (Regensburg 1748). Rookmaaker 1978a (Amsterdam 1741, 1748), 1978b: 30 (London 1751), 1980a: 68, 1982: 9. Sainéan 1921: 39 (Versailles 1749). Sewter 1949: 28, pl. 11 (bronze rhinos). Sliggers 1982: 147, fig. 95 (Haarlem 1756). Stricker 1881 (coin Neuremberg 1748). Thieme & Seifert 1978: 12-13, pl. facing p. 68 (Leipzig 1747). Thienemann 1856: 61, 212 (Augsburg 1748). Tourneux 1877, I: 272 (Paris 1749). Ullrich & Ullrich 1968: 190, 193, 258, 259 (Leipzig 1747). Weihrauch 1967: 443 (bronze statue in Louvre). Witkamp 1869, II: 110 (Amsterdam 1741).

3.15 THE RHINOCEROS OF VERSAILLES 1770-1793

3.15.1 *History-sources*

Buffon 1778 (arr. 1770). Camper 1782: 127, 160, 175 (seen 1777). Faujas-St. Fond 1809: 203, 205, pl. 9 fig. 1, pl. 10 fig. 1. Pallas 1780: 211 (Camper's visit). Pasteur 1793: 141. Sander 1779.

3.15.2 *History-remarks*

Cave 1976b: 414 (dissection). Chenu & Desmarest 1858: 3. Clarke 1974: 121, 1976: 15, fig. 54. Cuvier 1804a,b, 1812a, 1st pl. (description skeleton), 1836b, pl. 39 (skeleton). Duncan 1892: 323. Desmarest 1819: 240. Gervais & Gervais 1875a: 414 (drawings of dissection). Groves 1971: 241 (horn). Hamy 1893: 9 (alive 1789). Jouin 1889: 226ff, 263ff (drawings of dissection). Lacroix 1977: 13-19 (early history, 1770-1771). Loisel 1912, II: 143 ('rhinocéros bicorné', arr. 1770). Neuville 1927: 196, fig. 3 (keratinisation). Rookmaaker 1973c: 57, 1980a: 68.

3.16 PIDCOCK'S MENAGERIE, LONDON

Altick 1978: 39 (painting Stubbs). Clarke 1974: 121, 1975a, 1976: 15. Cuvier 1806: 28, 1812b. Duncan 1892: 323 (arr. 1790, present to Mr. Dundas, purchased £ 700). Grigson 1955: 173, pl. 34 (drawings Stubbs, ca. 1772). Jardine 1836: 171 (London 1790-93, 1799). Lenz 1835: 327 (London 1770). Loisel 1912, II: 17 (arr. 1770, 1799). Rookmaaker 1973c: 57 (arr. 1770, 1790, 1799), 1980a: 69 (arr. 1790, 1799). Taylor

1955: 63 (painting Stubbs 1772), 1971: 210 (drawings and painting Stubbs, ca. 1772).

3.17 MISCELLANEOUS ANIMALS IN CAPTIVITY

3.17.1 *On board the Shaftesbury 1737*

Buffon & Daubenton 1764: 175 (after Edwards). Edwards 1758: 25 (sketch seen, caption reproduced). Rookmaaker 1973c: 45. M. Ryhiner 1952: 69.

Note: The original sketch of 1737, mentioned by Edwards, is in the British Museum, London, Print Room: Sloane collection 5261 (Drawings of Quadrupeds), no. 44.

3.17.2 *Other animals*

Chardin 1711: 45 (one animal in Ispahan - cf. Coste 1946: 123, Loisel 1912, II: 6). Dannenfeldt 1968: 143 (Aleppo 1575, seen by Rauwolff). van Goens (1656) 1856: 313 (menagerie on Java). Pasteur 1793: 141 (double-horned animal drowned near Mannheim). Rauwolf (1582) 1971: 267 (Aleppo, Persia). Tavernier (1676) 1977, I: 93 (tame in Jahanabad, India). Thevenot 1727: 133 (Dehly). Turpin (1771) 1811: 619 (Siam, donation to king). Varthema (1510) 1928: 22 (Mecca, 2 one-horned animals, donated by a king of Ethiopia).

3.18 ICONOGRAPHY OF THE AFRICAN RHINOCEROS

3.18.1 *Plates of African rhinoceros published before 1800*

Allamand 1781, pl. 5, 1782, pl. 6, 1785, pl. 1 (by R.J. Gordon). Bruce 1790, facing p. 85 (after Buffon, with second horn). Buffon 1778, pl. 57 (double horn). Camper 1780, pls. 5-8, 1782, pls. 1-3 (head and skull). Daniell 1805, pl. 30. de Flacourt 1661, facing p. 66. Kerr 1792, pl. 162 facing p. 133 (after Sparrman). Klein 1751, pl. 2 (double horn). Kolb 1727, facing p. 190 (by Jan Wandelaar). Merck 1784, pl. 2 figs. 1-3 (skull parts), 1786, pls. 1, 2 (upper and lower jaw). Parsons 1766, pl. 2 (double horn). Shaw 1800, pl. 61 (after Allamand). Sparrman 1778, pl. 9 (side-view of body and skull), 1779 (penis), (1787) 1977, II pl. 3 (as 1778).

3.18.2 *Remarks on African rhinoceros*

Anon. 1872: 318 (on Kolb). de Bouveignes 1953 (quotes Sparrman). Cave & Rookmaaker 1977: 139-149 (drawings and notes of R.J. Gordon at the Cape 1777-80), 154-155 (Sparrman's dissection). Forbes 1977: 36 (Kolb, Sparrman, Allamand). Forbes & Rourke 1980: 19, 55, 173 (Paterson's collection, Cape, ca. 1778). Hallema 1951, pls. 22, 22a (drawings by Johannes Schumacher, Cape, 1776-77). Killermann 1908: 582, fig. 581, 1910: 86 (double-horned rhino on ostrich egg, late 17th century). Meester 1973: 7 (drawing by F. Levaillant, Cape, 1781-84). Nicol 1982: 42-43 (Paterson's collection, ca. 1778). Rieth 1974: 88 (Ridinger drew double-horned rhino). Rookmaaker 1976a (early reports; plate by Wandelaar in Kolb 1727), 1982 (fake double-horned animals.) Zukowsky 1965: 8-27 (early reports).

3.19 MISCELLANEOUS ILLUSTRATIONS BEFORE 1800

Aneau 1552: 17. Augustin 1587, pl. 63 (Domitian coin). von der Behr 1689, frontispiece (one-horned rhino). Bell 1793, pls. 2-4 (Sumatran rhino). Blumenbach 1791, pl. 45 (Mannheim rhino). 1796, pl. 7 (skulls of African and Asiatic rhinos,



FIGURE 1

A double-horned (Sumatran?) rhinoceros found in an early collection of drawings with material belonging to Andreas Cleyer in 1680 (*Miscellanea Cleyeri*, Libri Picturati A. 38 - Jagellon library, Cracow).



FIGURE 2

P. Bonannius, *Rerum naturalium* . . . in *Museo Kircheriano*, vol. 1 (1773); the rhinoceros may have been inspired by the animal seen in Rome in 1750.



FIGURE 3

Painting by James Parsons (1705-1770) of the Indian rhinoceros in London in 1739 (British Museum (Natural History), Mammal section, London).



FIGURE 4

Bronze rhinoceros (15 x 27 cm) made by François Pompon in 1933 (Musée de Dijon).



FIGURE 5

Rhinoceros with chains on the staircase of the Batsala Devi temple in Bhaktapur near Kathmandu, Nepal.



FIGURE 6

Sketch made on board the *Shafesbury* in 1737 (Sloane Manuscripts 5261 no. 14, reproduced by permission of the Trustees of the British Museum).



FIGURE 7

Sumatran rhinoceros "Subur" photographed in the Copenhagen zoo in September 1965 by Lothar Schlawe.



FIGURE 8

Vignette from Buffon's *Histoire Naturelle* with the Indian rhinoceros exhibited in Paris in 1749.

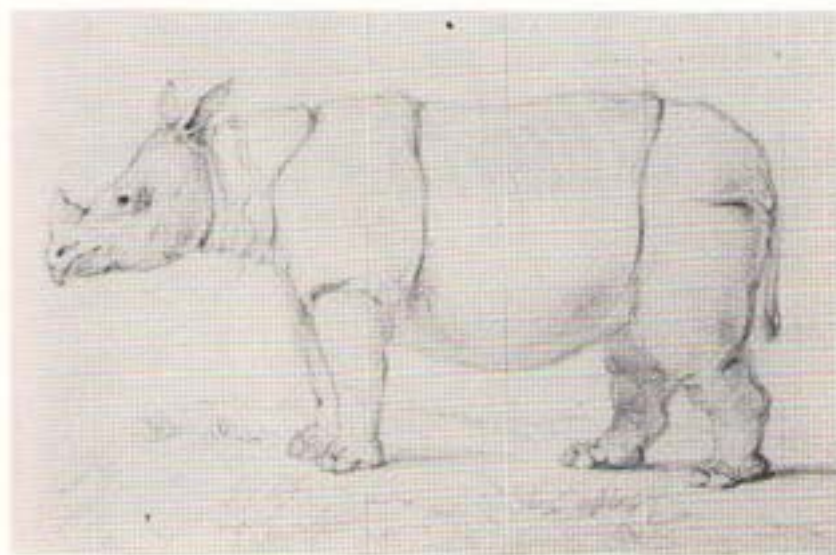


FIGURE 9

Drawing of a Javan rhinoceros in a collection made by Thomas Horsfield (1773-1859) in Java (India Office Library, London).

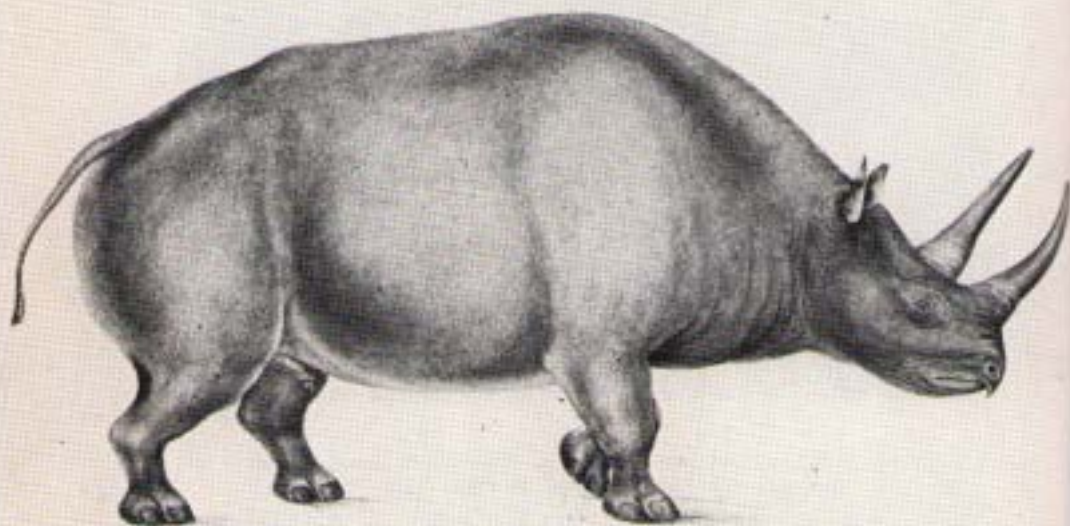


FIGURE 10

The *Rhinoceros keitloa* drawn by Gerald Ford, later published in Andrew Smith's *Illustrations of the Zoology of South Africa*, 1838 (R.T. Gunther collection no. 189, University of Witwatersrand, Johannesburg).



FIGURE 11

A page in the Memoirs of Babur, in a manuscript prepared about 1590 (British Library, Department of Oriental manuscripts, ms. OR 3714, folio 379a).



FIGURE 12
The Exeter Change menagerie in London in 1813 (The Museum of London).

after unpublished plate by P. Camper). Bonannius 1773, pl. 3 no. 54 (horn). Bontius 1658: 50 (head and skull). Buffon & Daubenton 1764, pl. 8 (horns). Camper 1782, pl. 3 fig. 4 (Domitian coin). Chardin 1711, pl. 40 (one-horned rhino). Pallas 1780, pl. 9 (parts of jaw of Javan rhinoceros, drawn by P. Camper). Parsons 1743, pl. 3 (horns, tail, feet, penis). Schoutens 1676, frontispiece (one-horned rhino). Sloane 1749, pl. 2 figs. 5, 7 (Domitian coin). Spanheim 1671: 138 (Domitian coin). Vogel 1716, frontispiece (fight of rhino and elephant).



ANALYSIS OF THE LITERATURE



PART 2

BIOLOGY



CHAPTER 4

THE FAMILY RHINOCEROTIDAE

4.1 GENERAL POPULAR WORKS

Brehm 1877. Buffon & Daubenton 1764. Chenu & Desmarest 1858. E. Desmarest 1819. Dubois 1852. Duncan 1892. Frädrieh & Frädrieh 1973. Gervais 1855. Giebel 1855. Grzimek 1969: 33-72 (with chapters by E. Thenius, E. M. Lang, B. Grzimek and H.G. Klös). Guggisberg 1966a. Hillenius 1971. van der Hoeven 1855. Jardine 1836. Kaup 1833. Llopiis 1974a,b,c. Oken 1838. Simon 1966-1971. Stonehouse 1981. Vogt 1884. Walker 1964.

4.2 NAMES OF THE FAMILY GROUP

4.2.1 Names

- Akynodontes Brandt 1878a: 25.
Atelodinae Osborn 1900: 262 (Atelodiens Pomel 1853: 112, tribe of family Perissodactyla).
Bicornes Brandt 1878a: 41 (type genus *Ceratorhinus*).
Ceratorhinae Osborn 1898: 121 (type genus *Ceratorhinus*).
Ceratotheriinae W.O. Dietrich 1945 (*Palaeontographica*, Stuttgart, 96A: 46-90), (type genus *Ceratotherium*).
Colobotemnodontes Brandt 1878a: 51 (cohors of Bicornes).
Dicerinae Ringström 1924: 97 (type genus *Diceros*).
Dicerorhinae Ringström 1924: 5 (type genus *Dicerorhinus*).
Dicerorhininae Simpson 1945: 142 (type genus *Dicerorhinus*).
Dicerorhinini Loose 1975: 7 (type genus *Dicerorhinus*).
Dicerotes Friant 1950: 337.
Dicerotinae Ellerman et al. 1953: 162, Deraniyagala 1953: 13 (type genus *Diceros*).
Dicerotini Loose 1975: 7 (type genus *Diceros*).
Nasicornia Illiger 1811: 97.
Rhinocerotidae Blyth 1875: 50. -also Lapsus for Rhinocerotidae in the synonymy of Gray 1868: 1005.
Rhinocerotina Gray 1868: 1005, attributed to Bonaparte 1839 hence lapsus for Rhinocerotina.
Rhinoceria Rafinesque 1815: 56 (subfamily of Bellua, type genus *Rhinoceros*).
Rhinocerida Haeckel 1895: 545 (type genus *Rhinoceros*).
Rhinoceridae Chenu & Desmarest 1858. (Rhinocérides Billberg 1828).
Rhinocerina Gray 1825: 343 (tribe of Elephantidae, type genus *Rhinoceros*).
Rhinocerinae Zittel 1891: 288 (type genus *Rhinoceros*).
Rhinoceroecidae Brookes 1828: 74 (type genus *Rhinoceros*).
Rhinocerotina Bonaparte 1838a: 112, 1838b: 253 (subfamily of Elephantidae, type genus *Rhinoceros*).
Rhinocerosidae Lesson 1842: 158 (type genus *Rhinoceros*).

- Rhinocerotidae Gray 1873a: 356 (type genus *Rhinoceros*).
 Rhinocerotidae Owen 1845: 587, Schinz 1845: 332 (type genus *Rhinoceros*).
 Rhinocerotinae Dollo 1885: 295 (type genus *Rhinoceros*).
 Rhinocerotina Frisch 1775: 4 (book not accepted for nomenclature).
 Rhinocerotinae Brandt 1878a: 25 (type genus *Rhinoceros*).
 Rhinocerotini Dollo 1885: 295 (type genus *Rhinoceros*).
 Rhinocerotioidea Gill 1872: 84 (superfamily).
 Rhinocerotidae Gray 1821: 306.
 Rhinocerotidae Zammatarano 1930: 165.
 Unicornes Brandt 1878a: 33 (type genus *Rhinoceros*).

4.2.2 Remarks

Blumenbach 1796, pl. 7 (*R. unicornis* and *R. bicornis* belong to two different orders, Bruta and Glires, following dentition). Groves 1971 (shape and size of horns as taxonomic character; usually at most identify genus), 1975: 200 (rejects Ceratotheriinae).

4.2.3 Lists of synonyms

Chenu & Desmarest 1858. Grassé 1955: 1119-1125. Gray 1868: 1005. Heissig 1973. Simpson 1945: 140-143.

4.3 NAMES IN THE GENUS GROUP

4.3.1 Names

- Atelodus* Pomel 1853: 114 (subgenus of *Rhinoceros* with 4 fossil and 3 recent species).
Ceratohinus Gray 1868: 1006 (type species *C. sumatrensis*).
Ceratotherium Gray 1868: 1006, 1027 (type species *C. sinum*).
Coelodonta Bronn 1831 (type species *C. antiquitatis*).
Colobognathus Brandt 1878a: 51 (subgenus of *Atelodus* including *A. bicornis* and *A. sinus*).
Cyclochilus Brandt 1878a: 55 (section B of subgenus *Colobognathus* including *A. sinus*).
Dactylochilus Brandt 1878a: 52 (section A of subgenus *Colobognathus* including *A. bicornis*).
Dicerorhinus Gloger 1841: 125 (type species *D. sumatrensis*). See 4.3.2
Diceros Gray 1821: 306 (type species *D. bicornis*).
Didermoceros Brookes 1828: 75 (type species *D. sumatrensis*). See 4.3.2
Eurhinoceros Gray 1868: 1009 (subgenus of *Rhinoceros*).
Keitloa Allen 1939: 556 (in list of synonyms, attributed to Gray 1868: 1025 with type species *R. Keitloa*, but the name appears there as species and as variety not as genus or subgenus name).
Monoceros Rafinesque 1815: 56.
Opsiceros Gloger 1841: 125 (type species *O. africanus* = *bicornis*).
Rhinaster Gray 1862: 282, 1868: 1006, 1023 (referring to 'Gray, List Mamm. B.M. 1840; Gerrard, Cat. Bones B.M. 281' (not seen); type species *R. bicornis*). Allen 1939: 556 (preoccupied by *Rhinaster* Wagler, 1830, Mammalia: Insectivora).
Rhinoceros Linnaeus 1758: 56 (type species *R. unicornis* - see Elliot 1907: 104, Pocock 1914, Rookmanker 1980b: 258).
Unicornus Rafinesque 1815: 219 (replacement for *Monoceros*).

4.3.2 *Validity of Didermocerus and Dicerorhinus*

Boylan 1967a (proposes suppression of *Didermocerus* because *Dicerorhinus* is generally used; the two names are objective synonyms with the same type species), 1967b: 119 (*Didermocerus* predates *Dicerorhinus*, the latter usually used by paleontologists). Boylan & Green 1974 (list of use of the two names in literature; reformulates suggestion to suppress *Didermocerus*). Ellerman & Morrison-Scott 1951: 339 (*Didermocerus* is valid). Groves 1967c (use of *Didermocerus* leads to difficulties; argues for suppression of Brookes's catalogue for nomenclature). Hooijer 1967 (*Dicerorhinus* consistently used by paleontologists; argues for suppression of Brookes's catalogue for nomenclature). Loose 1975: 15 (urges use of *Dicerorhinus*). Madway 1977: 144 (*Didermocerus*, will probably become *Dicerorhinus*). Melville 1977 (*Didermocerus* is suppressed, *Dicerorhinus* and *sumatrensis* placed on official list of zoological names; Brookes 1828 is approved as available for zoological nomenclature). Pocock 1945b: 450 (*Didermocerus* instead of *Dicerorhinus*). Simpson 1945: 142 (prefers *Dicerorhinus*; Brookes 1828 is not a publication and *Didermocerus* not used). van Strien 1974a: 6 (review), 1977a (reports on Melville 1977). Thomas 1901 (*Dicerorhinus* antedates *Ceratorhinus*).

4.3.3 *Lapsus in genus names*

| | |
|------------------------------------------|----------------------------------------------------------------|
| <i>Diceros</i> , Virchow 1910 | <i>Diceros</i> , Billberg 1827 |
| <i>Cerathorhinus</i> , Jentink 1889 | <i>Didarmocerus</i> , Jenyns 1955 |
| <i>Ceratotherium</i> , Hayes 1964 | <i>Didermoceros</i> , Metcalfe 1961, Maliepaard & de Vos 1961. |
| <i>Cenathoterium</i> , Malbrant 1936: 25 | <i>Didermocerus</i> , Schlawe 1961 |
| <i>Coratotherium</i> , Blancou 1935a | <i>Rhinoceros</i> , Billberg 1827 |
| <i>Dicera</i> Berger, 1910b | <i>Rhinoceros</i> , Le Viet Du 1969. |

4.3.4 *Remarks*

Ellerman 1954: 79 (type species of *Diceros*). Owen-Smith 1973: 13 (validity of *Ceratotherium*). Thomas 1901: 158 (*R. sinus*, if not belonging to *Diceros* with *D. bicornis* should be placed in *Coelodonta* Bronn).

4.4 CLASSIFICATION

4.4.1 *Review*

Guérin 1980: 28.

4.4.2 *All recent species in one (sub-) family*

Abel 1919. Dollo 1885: 295. Heissig 1973 (all recent species in tribus *Rhinocerotini* of *Rhinocerotinae*). Matthew 1931: 9. Steinmann & Döderlein 1890: 774. Weber 1904: 626. Woodward 1898.

4.4.3 *Division in Rhinocerotinae (Rhinoceros) and Dicerorhininae (Dicerorhinus, Diceros, Ceratotherium)*

Friant 1950: 337 (in divisions *Rhinocerotidae* and *Dicerotidae*). Heymans & Colyn 1981. Grassé 1955: 1119-1125. Loose 1975: 7-8 [*Dicerorhininae* with 2 tribes: *Dicerorhinini* (*Dicerorhinus*) and *Dicerotini* (*Diceros*, *Ceratotherium*)]. Schaurte 1968: 288. Simpson 1945: 141-143, 257. Viret 1958: 446.

4.4.4 *Division in Rhinocerotinae (Rhinoceros, Dicerorhinus) and Dicerotinae (Diceros, Ceratotherium)*

Deraniyagala 1953. Ellerman et al. 1953: 162. Gervais 1855: 162-165. Gray 1868, 1869b. Groves 1967a: 221, 1975: 200. van der Hoeven 1855: 919. Pocock 1945b: 449-450. Slater 1872c: 426, 1873a: 140.

4.4.5 *Division in Rhinocerotinae (Rhinoceros), Dicerorhininae (Dicerorhinus) and Dicerotinae (Diceros, Ceratotherium)*

Brandt 1878a, b, c, 1879 [recent species in Rhinocerotidae, legio II: Akynodontes, Subfam. IV: Rhinocerotinae, with cohorts A: Holodermodontes group b: Unicorines (*Rhinoceros*) and group c: Bicornes (*Ceratotherium*); and with cohorts B: Colobodermodontes (*Atelodus*)]. Breuning 1924. Flower 1876, 1891. Guérin 1980: 28. Thenius 1969: 545, 548, 1972: 272. Zeuner 1934: 28.

4.5 PHYLOGENY AND EVOLUTION

Baker 1967: 383. Colbert 1942. Colbert & Hooijer 1953: 102. Cope 1881: 394. Dollo 1885: 299. Groves 1972: 2. Guérin 1979 (postcranial skeleton of African species), 1980: 1055-1058. Guggisberg 1966a: 23-32. Haeckel 1895: 545. Heissig 1973: 28. Heller 1913: 16-18. Hooijer 1969, 1973, 1976. Hooijer & Patterson 1972: 25. Kingdon 1979: 82-86. Klaitz 1972 (mesaxonic symmetry). Lang 1923: 157. Laurie 1978b: 345-369, 390-393 (evolution of behaviour). Laurie & Olivier 1977: 658. Lydekker 1881: 56. Matthew 1931, 1932: 438-440. Nicholson & Lydekker 1889: 1363-1371. Osborn 1898: 98-103. Owen-Smith 1973: 6-12. Stehlin 1930 (evolution of dentition). Thenius 1969: 543ff, 1972: 272-274. E. Thenius in Grzimek 1969: 33-37. Thenius & Hofer 1960: 197-202. Viret 1958: 447. Zeuner 1934: 36-44 (evolution of skull).

4.6 MORPHOLOGY

4.6.1 *Differences between Diceros and Ceratotherium*

Berger 1910b: 345. Bryden 1893: 490, 1897: 185. Cave 1962b: 698. Cooke 1950: 405. Coryndon 1894: 311. Deraniyagala 1953. Groves 1972: 1, 1975: 200. Heller 1913: 13. Hooijer & Singer 1960. Jardine 1836: 186. Kirby 1920: 226, 235. Lang 1920: 72. Malbrant 1936: 25. Maydon 1932: 119. Owen-Smith 1973: 11. Peel 1900: 298. Player & Feely 1960: 6. Renshaw 1904: 129. Roosevelt & Heller 1915, II: 638-640. Schmidt-Schaumburg 1953. Schouteden 1911: 120, 1927: 26, 1945: 263. Slater 1890: 521. Sidney 1965: 51.

4.6.2 *Differences between Dicerorhinus and Rhinoceros*

Van Balen 1914: 218. Beddard 1902: 254. Blyth 1862a: 154-159, 1872b: 3104. Chakraborty 1972. Colbert 1942. Colbert & Hooijer 1953. Delsman 1951, fig. 41. Flower 1878. Gray 1868: 1006-1009. Grzimek 1960a: 23. Guggisberg 1966a: 133. Hooijer 1945: 252, 1946a: 9-12. Koningsberger 1902: 60. Pocock 1945b. Slater 1874. Shebbeare & Roy 1948: 89. Sody 1959: 113-116. Weatherbe 1939: 155.

4.6.3 *Structure of horn*

Anthony 1928: 184. Boas 1931: 551. E. Desmarest 1819: 238. Dove 1935: 387. Earland et al. 1962: 1289, 1291. Grassé 1955: 1109-1110. Hayman 1956: 4. Hilzheimer 1935: 1502. Kneeland 1854. Lynch et al. 1973. Makinson 1954. Neuville 1927: 184-187. Ryder 1962a, b. Schaurte 1968: 289. Wood 1851: 753.

4.7 EXHIBITS IN CAPTIVITY

Management reviews: Blaszkewitz 1980, Crandall 1968, Jones 1979, Lang 1976, Nelson 1978, Silberman & Fulton 1979.

Exhibits in zoos: Bürger 1976 (Magdeburg), Crandall 1968: 509, Gaebler 1883a: 209 (Berlin), Klös 1961b: 47 (Berlin), Lang 1961a (Basel), Mottershead 1961 (Chester), Schmidt 1967 (Zürich), Toovey 1979 (London), Turek 1961 (Prague), Turner 1961 (Dallas).

CHAPTER 5

THE WHITE RHINOCEROS, CERATOTHERIUM SIMUM

5.1 REVIEW

Backhaus 1964. Groves 1972. Heller 1913. H. Lang 1920. Owen-Smith 1973, 1975. Sidney 1965.

5.2 TAXONOMY AND NOMENCLATURE

5.2.1 *Revisions*

Brandt 1878a: 55-56 [*Atelodus simus* with 2 varieties: *Camptoceros* (nasal horn bent backwards) and *Prostheceros* (nasal horn bent forwards)]. Groves 1972: 1, 1975 (*C. simum simum* and *C. simum cottoni*).

5.2.2 *Remarks*

Brooks 1876: 110 (distinguished 'white rhinoceros' and 'rare long-horned white rhinoceros'). Guérin 1980: 171-172 (differences between subspecies).

5.2.3 *Subspecies and synonyms of Ceratotherium simum*

Rhinoceros burchellii Lesson, 1827: 332.

Type-specimen: not designated

Type-locality: interior of Cape (Lesson 1827)

Remarks: Lydekker 1916: 55 (name attributed to Desmarest 1822).

Taxon considered valid:

Rhinoceros burchellii Lesson 1827. - Boitard 1842.

Rhinoceros simus Burchelli; Potter 1947.

Rhinoceros camus Griffith, 1827: 290.

Type-specimen: not designated

Type-locality: Southern Africa (Griffith 1827)

Date: Description of rhinoceros appeared in Mammals, part 3 of Griffith, which may have been published in 1826; cf. C.F. Cowan, 'Notes of Griffith's Animal Kingdom of Cuvier (1824-1835).' *Journal of the Society for the bibliography of natural history*, 5(2): 137-140 (1969).

Taxon considered valid:

Rhinoceros camus Griffith 1827. - Falconer 1868.

Rhinoceros simus cottoni Lydekker, 1908: 319.

Type-specimen: skull and horns in British Museum (Natural History), donated by P.H.G. Powell-Cotton.

Type-locality: Lado dt., Sudan (Lydekker 1908).

Remarks: Groves 1975: 206-208 (differences from *C.s. simum*). Guérin 1980: 171-172 (differences from *C.s. simum*). Heller 1913: 29-36 (discovery, differences from *C.s. simum*). Hooijer 1969: 72-73 (differential characters of *C.s. simum* and *C.s. cottoni* small 'hardly worthy of subspecific distinction, yet... being universally upheld'). Jeannin 1951: 120 (no evidence for distinction from *simum*). H. Lang 1920: 72. Lavauden 1932: 508 (discovery). Owen-Smith 1973: 13. Roosevelt & Heller 1915, II: 662. Schomber 1959 (discovery).

Taxon considered valid:

Ceratotherium cottoni; Hollister 1924.

Ceratotherium simum cottoni; Heller 1913. -(Note: This combination was generally used after 1960, except cf. *Diceros simus cottoni*.)-Allen 1939. Appelman 1958. van den Bergh 1955. Bere 1958. Dekeyser 1955. Haezaert 1959. Harper 1945. Lang 1924b. Mackenzie 1954. Micha 1958. Roosevelt & Heller 1915. Schouteden 1943, 1945. Schomber 1959. Setzer 1956. Verschuren 1958.

Ceratotherium simum cottoni; Blancou 1935a.

Diceros simus cottoni; Backhaus 1964.-Crandall 1968.

Rhinoceros simus cottoni Lydekker 1908.-Brocklehurst 1931. Fitzsimons 1920. Gyldestolpe 1928. Trouessart 1909. Vialli 1955.

Rhinoceros (Ceratotherium) simus cottoni; Berger 1910b.-Bequaert 1916. *Rhinoceros (Diceros) simus cottoni*; Lydekker 1916.

Rhinoceros kiaboaba Murray, 1866: 338.

Note: Murray mentioned in a list of species: '[R.] *Kiaboaba* Livingst. Central Africa,' without further description. Livingstone (1857: 71) found near Lake Ngami the 'kuabaoba, or straight-horned rhinoceros (*R. Oswellii*), which is a variety of the white rhinoceros.'

Taxon considered valid by Murray 1866 only.

Rhinoceros oswellii Elliot, 1847 in *Oswell & Vardon* 1847: 183.

Type-specimen: not designated. Gray (1853) described a pair of horns as *R. oswellii*, British Museum (Natural History), no. 1853.4.18.1 (figured Groves 1971, fig. 20).

Type-locality: the banks of the Makolwe river, tributary of the Limpopo (*Oswell & Vardon* 1847), Northern Transvaal.

Authorship: The name is generally attributed to Gray 1853. The animal was encountered by William C. *Oswell* during his second expedition of 1845-46 with Frank *Vardon*, and described in their report on the journey in the *Madras Journal of Literature and Science* (1847). The editor of the journal (W. Elliot according to *Sherborn* 1927, s.v. *oswellii*) added that he considered 'the existence of the *Quebaba* as a distinct species highly probable, we have named it provisionally after the discoverer *Rhinoceros Oswellii*.' The name also appears in the next issue (*Oswell* 1847).

Remarks: Brandt 1878a: 56-57 (synonym of *A. simus*). Brehm 1877: 519 (synonym of *R. simus*). Duncan 1892: 324 (variety of *R. simus*). Flower 1876: 456 (synonym of *R. simus*). Gray 1868: 1029 (new information). Murray 1866: 338 (synonym of *R. simus*). *Oswell* 1900: 141 (first supposed different species, but W.C. *Oswell* 'reverted... latterly to his original view'). Wood 1851: 760.

Taxon considered valid:

Ceratotherium oswellii; Gray 1868, 1869b.

Rhinaster oswellii; Gray 1862.

Rhinoceros oswellii Elliot in Oswell & Vardon 1847. - Drummond 1875. Gray 1853. Oswell 1847.

Rhinoceros simus Burchell, 1817.

Type-specimen: holotype not designated. Cave 1962b: 694 (Lectotype: Oxford University museum, no. 8221, O.C. 1568, from W. Burchell; seven other syntypes in same collection).

Type-locality: Interior of South Africa (Burchell 1817). Cave 1947: 142 (restricted to Chué Spring, ca. 26° 15'S, 23° 10'E, on the Makuba range, Bechuanaland).

Remarks: de Blainville 1817: 163, 1 pl (letter from Burchell describing *R. simus*, identical to Burchell 1817). Desmarest 1822, suppl. pl. 12 fig. 5 (figures by Burchell). E. Desmarest 1819: 246 (abstract from Burchell's letter). Gray 1868: 1028 (horns figured in Burchell 1817 do not belong to this species). Jardine 1836: 186-188 (translation of Burchell 1817). Lesson 1842: 159 (*R. simus* a variety of *R. bicornis*). Owen-Smith 1973: 12-13 (history). Schinz 1824: 290 (*R. simus* single-horned). von Schreber 1835: 342 (a doubtful species).

Taxon considered valid:

Atelodus simus; Pomel 1853. - Brandt 1878a, b, c. 1879. Flower 1876, 1891. Steinmann & Döderlein 1890.

Ceratorhinus simus; Grasse 1955.

Ceratotherium simus; Gray 1868, 1869b. - (Note: This combination generally used after 1960, except cf. *Diceros simus*.) - Babault 1949. Blancou 1958a, b. Bourgoin 1955. Breuning 1924. Cave 1958b, 1959. Cave & Allbrook 1958. Cooke 1950. Fraser 1958. Frechkop 1936. Grzimek 1958, 1960a. Jeannin 1945. Jentink 1887, 1892. Knobel 1958. H. Lang 1920, 1924b. Lavauden 1934. Malbrant 1936. Mauny 1956. Stevenson-Hamilton 1950. Weber 1904. Wilhelm 1950. Zeuner 1934. Zukowsky 1924.

Ceratotherium simum simum; Heller 1913. - (Note: This combination generally used after 1960, except *Diceros s. simus*.) - Allen 1939. van den Bergh 1955. Bigalke 1947a. Bigalke et al. 1950. Dekeyser 1955. Harper 1945. Hill & Carter 1941. Shortridge 1942.

Dicerorhinus simus; Arambourg 1962.

Diceros simus; Thomas 1901. - Ansell 1960a. Brand 1964a. Child & Savory 1964. Cooke 1964. Fiennes 1966. Haagner 1920. Maliepaard & de Vos 1961. van der Merwe 1962. L. Smith 1968. Young 1965a. *Rubenstein 1957*.

Diceros simus simus; Pienaar 1963. - Crandall 1968. Smithers 1968. Wallach 1969.

Diceros (Ceratotherium) simus; Ellerman et al. 1953. - R.C. Bigalke 1958. Ellerman 1954.

Diceros (Ceratotherium) simum simum; Ripley 1958.

Opsiceros simus; Gloger 1841.

Rhinaster simus; Gray 1862.

Rhinoceros simus Burchell 1817. - (Note: This combination generally used for the white rhinoceros before 1868, with few exceptions mentioned elsewhere.) - Augières 1935. Berger 1910a. Brehm 1877. Breuil 1923. Bryden 1889, 1892, 1893. Buckley 1876. Cabrera 1911. Chapman 1921. Coryndon 1894. Drummond 1875, 1876. Duncan 1892. Flower & Lydekker 1891. Fitzsimons 1920. Grant 1872. Heck 1896. Hobley 1926. Jentink 1890. Johnston 1906a. Lydekker 1881, 1893, 1911a. Malbrant 1930. Möller 1974.

Müller-Liebenwalde 1895, Nehring 1901, Nicholson & Lydekker 1889, Noack 1889, Noll 1873, Osborn 1900, Peringuey 1909, Potter 1949, de Pousargues 1897, Reid 1952, Renshaw 1904, Scherren 1903, Schlegel 1857, Sclater 1864a, 1870, 1872c, 1873a, 1886a, b, 1890, 1900, 1903, 1904, W. Sclater 1891, 1900, Selous 1876, 1881, 1892, P. Selous 1897, Stockley 1948, Thomas 1900, Trouessart 1898, Vogt 1884, Ward 1896, Ward & Lydekker 1912.

Rhinoceros (*Atelodus*) *simus*; Zittel 1891.—Woodward 1898.

Rhinoceros (*Ceratotherium*) *simus*; Schouteden 1911.

Rhinoceros (*Diceros* [*Ceratotherium*]) *simus*; Friant 1948, 1950.

Rhinoceros (*Diceros*) *simus*; Foenander 1952.

Rhinoceros (*Diceros*) *simus simus*; Lydekker 1916.—Dollman 1921.

Campbell's Rhinoceros

Remarks: Campbell 1821, 1822 (animal collected near Mashow, S. Africa, with a long straight anterior horn and a much smaller posterior horn). Gray 1868: 1029 (as *R. simus*). Home 1821: 272, 1822: 38–40, 1824 (information on Campbell's specimen).

Note: The animal is discussed and figured in John Campbell, *Travels in South Africa, second journey*, 1822, vol. 1: 294–296, pl. facing p. 294 (quoted and reproduced by A. Smith 1968: 106, pl. 2).

5.2.4 *Lapsus in specific names*

Rhinoceros *sinusus*, Smith 1836: 40 (corrected in Smith 1837: 9). Harris 1838: 376, 1839 (as synonym of *R. simus*).

Ceratotherium simum simum burchelliensis, Hayes 1964.

5.2.5 *Lists of synonyms*

Ansell 1967: 3, Brandt 1878a: 55–56, Ellerman et al. 1953: 164, Groves 1972: 1, Lydekker 1916: 55–56, Owen-Smith 1973: 15.

5.3 NAMES IN VERNACULAR

Best & Raw 1975: 160, Bourgoin 1955: 65, Bryden 1893: 490, Fitzsimons 1920: 207, Frechkop 1936: 12, Gatti 1965: 75, Hartmann 1868: 365, Jeannin 1945: 106, Kirby 1920: 242, Oswell 1847, Oswell & Vardon 1847: 182, 183, Owen-Smith 1973: 16, Player & Feely 1960: 21, Reid 1952, Rode 1944: 165, Shortridge 1942: 71.

5.4 EXTERNAL MORPHOLOGY

5.4.1 *Appearance*

Best & Raw 1975: 161, Bigalke et al. 1950, Boitard 1842: 405, Borchers 1979: 220, Brehm 1877: 518, Burton 1962: 210, Chenu & Desmarest 1858: 10, Crandall 1968: 508, Daniell 1805, pl. 30, Dorst & Dandelot 1970: 169, Duncan 1892: 324, Fitzsimons 1920: 212, Frechkop 1936: 12, Gatti 1965: 75, Giebel 1855: 202, Grassé 1955: 1111–1113, Groves 1972: 1–2, Guggisberg 1966a: 86, Haltenorth et al. 1979: 118, Harris 1839: 371, Heck 1896: 1022, Heppes 1958a: 30, 1958b: 274, Jeannin 1951: 118, Kirby 1920: 226, Lang 1920: 73, Lavauden 1934: 425, Lydekker 1892b, Noll 1873: 142, Oswell 1900: 138, Owen-Smith 1973: 81, Player & Feely 1960: 6, Roosevelt & Heller 1915, II: 659, 667, Schaarte 1969: 158 (at birth), Schinz 1824: 290, Schomber 1963: 29, Sclater 1886a, Selous n.d.: 186.

5.4.2 *Colour*

Harris 1839: 371. Heck 1896: 1022. Heller 1913: 21. Jentink 1890: 244. Kirby 1920: 229. Lang 1920: 72. Maydon 1932: 116. Player 1972: 133. Roosevelt & Heller 1915, II: 662, 670. F.C. Selous in Bryden 1899: 65.

5.4.3 *Explanation of name 'white'*

Berger 1924: 145. van den Bergh 1955: 132. Best & Raw 1975: 161. van Bruggen 1965b: 76. Fitzsimons 1920: 207. Gatti 1965: 75. Guérin 1980: 29. Hayman 1956. Heppes 1958b: 274. von Heuglin 1869: 301. Kirby 1920: 229. Lang 1920: 75. Lavauden 1932: 507. Owen 1956: 27. Owen-Smith 1973: 14. Player & Feely 1960: 7. Renshaw 1904: 131-133. Reynolds 1968a: 9.

5.4.4 *Footprints*

Bigalke et al. 1950: 525 (growth of hoofs). Kirby 1920: 227. Lang 1920: 86.

5.4.5 *Hair*

Bigalke et al. 1950. Cave 1958a, 1969: 251-254 (body hair, eyelashes, absence of facial vibrissae). Groves 1967b: 222, 1972: 2-3. Heller 1913: 22. Kubiak & Dziurdzik 1973 (histology of hair from ear). Player & Feely 1960: 9.

5.4.6 *Horn*

Bigalke et al. 1950: 524. Foster 1960: 32. Groves 1971: 250. Guggisberg 1966a: 87. Hediger 1970, 1977: 14 (additional horn on shoulders). Heller 1913: 35 (single-horned specimen). Klös 1969b (breaking off and growth). Lang 1920: 73. Lavauden 1934: 425 (Lado female not single-horned). Lynch et al. 1973 (structure). Oswell 1900: 138.

Horn measurements: Best & Raw 1975: 488-489. Bigalke et al. 1950. Brocklehurst 1931: 110. Bryden 1893: 493. Cooke 1950: 404. Coryndon 1894: 332. Haltenorth & Trense 1956: 413. Hartmann 1868: 365. Heller 1913: 35. Jeannin 1951: 118. Lang 1923: 158. Lavauden 1932. Lydekker 1892b, 1907c: 73. Scherren 1903. Schillings 1925: 111. Slater 1903: 195. F.C. Selous in Bryden 1899: 62-64.

5.4.7 *Nuchal hump*

Alexander & Player 1965. Bigalke et al. 1950: 523. Groves 1972: 2-3.

5.4.8 *Size*

Benson 1947. Berger 1910a: 372 (Uganda), 1910b: 346. Bourgoin 1955: 65. Brocklehurst 1931: 110. Bryden 1893: 494. Burton 1962: 210. Coryndon 1894: 329. Crandall 1968: 508. Dorst & Dandelot 1970: 169. Fitzsimons 1920: 212. Foster 1960: 34. Frädrich & Frädrich 1973: 192. Groves 1972: 1-2. Guggisberg 1966a: 86. Haltenorth et al. 1979: 106. Harris 1839: 371. Heller 1913: 32. Heppes 1958a: 30, 1958b: 274. Ionides 1953a: 128. Jeannin 1951: 118. Jentink 1890: 243. Kirby 1920: 228. Lang 1920: 74. Maydon 1932: 117. Mentis 1970: 375. Owen-Smith 1973: 84-87. Player 1967: 138, 1972: 71, 73, 91. Player & Feely 1960: 6. Rode 1944: 166. Roosevelt & Heller 1915, II: 667-670. Schinz 1824: 290. Selous n.d.: 186. F.C. Selous in Bryden 1899: 66. Silberman & Fulton 1979: 7. Ward 1896: 289.

5.4.9 *Size at birth and growth*

Anon. 1968g. Bigalke 1947a (growth). Bigalke et al. 1950: 520 (growth for 18 months). Dittich 1971: 76, 1972 (growth). Frädrich & Frädrich 1973: 192. Owen-

Smith 1973: 93-98 (growth). Player 1967: 148 (growth). Player & Feely 1960: 8 (growth). Roney 1972. Schaurte 1969: 484 (after 6 days). Wallach 1969 (growth). Wilson 1969: 8 (after 7 days).

5.4.10 *Skin*

Allbrook et al. 1958: 51P. Bigalke et al. 1950: 522.

5.4.11 *Age classes*

Groves 1975: 201-205 (skulls). Heller 1913: 22. Owen-Smith 1973: 93.

5.4.12 *Individual recognition*

Selous 1881 (individual variation in shape of horn).

5.4.13 *Sexual dimorphism*

Groves 1975: 201-205 (skulls). Guérin 1980: 157, 158 (males larger than females). Harris 1839: 371 (female smaller). Heller 1913: 77 (horns). Lavauden 1934: 425 (female not single-horned). Loose 1975: 26 (absent in skulls).

5.5 ANATOMY

5.5.1 *Review and general dissection*

Aumonier & Cave 1960 (visceral histology). Grassé 1955: 1108-1118. Groves 1972: 3 (summary). Owen-Smith 1973: 88-91.

5.5.2 *Organs*

Epipharynx: Cave 1974a.

Kidney: Meinertz 1974: 710.

Lymph: Cave & Aumonier 1962a (lymph node), 1964b.

Musculature: Kingdon 1979, fig. p. 85.

Parathyroid: Cave 1976b. Cave & Aumonier 1966 (histology).

Penis: Cave 1964b, 1966. Cave & Aumonier 1964c.

Postcava: Cave 1975.

Salivary glands: Cave 1982.

Skin: Cave 1958a. Cave & Allbrook 1958, 1959.

Sweat gland: Groves 1972: 3 (apocrine).

Temporo-pterygoid ligament: Cave 1979b: 524.

Thyroid: Cave 1976b, c.

Tongue: Cave 1977, 1980 (musculature).

Tonsils: Cave 1979a: 486-493.

5.6 OSTEOLOGY

5.6.1 *Skull*

Cave 1959: 2 (foramen ovale), 1965: 505-507 (lacrimal epiphysis). Chapman 1921: 409 (bony projection in front of eye). Friant 1948 (articulation of lower jaw). Gray 1868: 1028. Groves 1972: 3. Guérin 1980: 33-54. Heller 1913: 22-29. Loose 1975: 8-10, 14 (characters, otic region). Owen-Smith 1973: 87. Thenius 1955a (ossification of nasal septum).

5.6.2 *Skull measurements*

Gray 1868: 1032. Groves 1972: 3, 1975: 204. Guérin 1980: 48, 52. Heller 1913: 28. Loose 1975, tab. 9 (Zeuner's angles in quartiles). Nehring 1901.

5.6.3 *Dentition*

de Blainville 1846: 51-58. Cooke 1950: 404. Dittrich 1974: 293 (eruption of milk teeth). Groves 1972: 3. Guérin 1980: 54-73 (description, measurements). Haltenorth et al. 1979: 106. Heller 1913: 22. Hickman 1979 (inverted PM₁ due to blow). Loose 1975: 8. Owen 1845: 589ff. Owen-Smith 1973: 87. Player & Feely 1960: 8 (eruption of milk teeth). Roosevelt & Heller 1915, II: 659. Wallach 1969 (eruption of molars).

5.6.4 *Postcranial skeleton*

Groves 1972: 3. Guérin 1980: 74-152 (descriptions of bones, measurements). Heller 1913: 15 (vertebral formula). Pouchet & Beauregard 1889: 198. Zeuner 1934: 35 (position of head).

5.7 PHYSIOLOGY

Allbrook et al. 1958 (rectal temperature, pulse rate). Groves 1972: 4 (body temperature, heart rate, respiration). Hiley 1977 (thermoregulatory response). Jones 1979: 242, 245 (vit. A and copper levels; haemoglobin and serum biochemistry). Kirby 1920: 240 (perspiration). Nelson 1978: 767 (blood parameters). Osterhoff & Keep 1970 (blood protein). Osterhoff et al. 1972: 361 (haemoglobin). Owen-Smith 1973: 91 (body temperature, pulse rate). Seal et al. 1976 (blood constituents). Silberman & Fulton 1979: 7 (body temperature, blood constituents). Thomson et al. 1949 (rectal temperature). Wallach 1969 (heart rate, rectal temperature).

5.8 GENETICS

Groves 1972: 5 (karyotype). Heinichen 1967, 1969, 1970: 68-72 (karyotype, $2n=82$, chromosomes). Owen-Smith 1973: 93 (chromosomes).

5.9 DISTRIBUTION AND STATUS

5.9.1 *General reviews and reports*

Babault 1949: 10. Behr & Meissner 1959: 160-161. Duncan 1892: 324 (Central Africa). Groves 1972: 2 (map), 1975: 201. Guggisberg 1966a: 82, 84. Haltenorth & Trense 1956: 207. Haltenorth et al. 1979: 106. Heck 1896: 1022. Jeannin 1951: 123, 129-131. Joleaud 1931: 680-684. Kingdon 1979: 107. Klös & Frese 1981a: 18 (map). Llopis 1974c. Owen-Smith 1973: 22-24. Renshaw 1904: 148-150 (early reports on northern subspecies). Sidney 1965: 51-61 (review).

5.9.2 *Status in general*

Anon. 1963c. Heymans & Colyn 1981: 159. Hillman 1980a, b, 1981. Kirk 1968: 151. Klingel 1979 (present status review). Lang 1920: 91, 1924b: 319. Maliepaard & de Vos 1961: 150-151. Schomber 1959: 552, 1966: 225. Simon 1966-1971. Thornback 1981b.

5.9.3 *General reports on Southern Africa*

Ansell 1967: 1-2. Bothma 1975: 89. van Bruggen 1965b: 76-77. Dolan 1971. Duncan

1892: 324. Groves 1972: 2. Guggisberg 1966a: 77-80. Heller 1913: 38. Heppes 1958b: 273. Kirby 1920: 224. Lang 1920: 76. Murray 1866: 338. Player 1972: 107 (map). Player & Feely 1960: 3-6. Roth 1967. Schlater 1886a. F.C. Selous in Bryden 1899: 52-55. Simon 1966.

5.9.4 *Angola and Namibia*

Review: Sidney 1965: 60.

Records: Ansell 1959a (S.E. Angola and N. Namibia). Barnard 1952 (Kaokofeld). Behr & Meissner 1959: 161 (S.E. Angola). Coryndon 1894: 330 (Angola). Grzimek 1958: 118 (Angola, status). Maliepaard & de Vos 1961: 151 (S.E. Angola). Möller 1974: 102 (S. Angola). Schomber 1959: 550 (Kaokofeld improbable). Selous 1881 (between Okavango and Cunene). Steinhardt 1920: 42 (localities Namibia; seen once N.E. Kaokofeld).

5.9.5 *Botswana*

Ansell 1959a (former occurrence). Hillman 1980a: 71 (Chobe N.P.). Smithers 1968: 96 (wanderers from introduced population in Wankie N.P., S. Rhodesia), 1971: 405 (early reports, extinct 1880-1890; wanderers from Wankie N.P.).

5.9.6 *Cameroon*

Jeannin 1930: 165 (natives suggest occurrence in north). Lavauden 1932 (possible occurrence).

5.9.7 *Central African Republic (A.E.F.)*

Review: Harper 1945: 410. Schomber 1966: 222-223, map 3. Sidney 1965: 54-55.

Status: Blancou 1958b: 404 (extinct). Fitter 1968: 33, 1974b: 445. Grzimek 1958: 118. Hillman 1980a: 71. Owen-Smith 1973: 19. Schomber 1963: 31. Simon 1971. 'C.A.R.' only: Ansell 1967: 2. Maydon 1932: 117.

Records: Augières 1935: 62 (north of Mbomou). Behr & Meissner 1959: 160 (Aouk-Aoukat, Birao). Blancou 1948: 10-11 (until 1935), 1958a: 313 (no records for 20 years), 1960: 101 (N.E. Oubangui). Bourgoin 1955: 65 (Oubangui), 1958: 404 (Oubangui). Fitter 1968: 33 (Ubangui). Groves 1972: 2 (Goz Sassulko N.P., Upper Ubangui). Grzimek 1958: 117 (Goz-Sassulko N.P.). Jeannin 1945: 108 (Oubangui). Lavauden 1932 (localities), 1934: 431 (localities in east). Malbrant 1936: 26 (east of Oubangui). Rode 1944: 167 (Oubangui Chari). Zwilling 1940: 367-368 (Birao, Aouk).

5.9.8 *Chad*

Review: Schomber 1966: 223-225, maps 3, 4. Sidney 1965: 53-54.

Status: Blancou 1958a: 313 (no records for 20 years).

'Chad' only: Ansell 1967: 2. Schouteden 1911: 120.

Records: Blancou 1935a: 60 (absent), 1948: 10 (Oubangui-Chari, until 1935), 1960: 101 (S.E. Chad). Groves 1972: 2 (Lake Iro, R. Salamat). Lavauden 1932 (localities), 1934: 431 (localities). Malbrant 1930: 355 (localities), 1936: 26 (former localities). Trouessart 1909 (Sudan to Lake Chad). Zwilling 1940: 367-368 (Goz-Beida, Mongororo).

5.9.9 *Kenya*

Translocation: Anon. 1966a (from Zululand to Meru N.P., 6 animals). Anon. 1978b (fate of Meru population). Foster 1967: 169 (from S. Africa to Meru N.P., 1966).

5.9.10 *Malawi*

Kirby 1920: 224 (Mwanza bush, skulls found in 1904).

5.9.11 *Mozambique*

Review: Sidney 1965: 61.

Status: Hillman 1980a: 72.

Translocation: Anon. 1969a (to Gorongosa and Maputo). Anon. 1970d (to Mozambique). Smithers & Tello 1976: 111 (reintroductions 1967-1969).

Records: Ansell 1970. Bigalke 1970. Johnston 1906a: 292 (horns, north). Maugham 1910: 247 (absent). Smithers & Tello 1976: 111 (south, until ca. 1935).

5.9.12 *South Africa*

Review: Owen-Smith 1973: 19-33. Sidney 1965: 59-60.

Status: Bourquin et al. 1971: 35 (Zululand). van Bruggen 1965b: 78. Fitter 1968: 34. Grzimek 1958: 117. Hillman 1980a: 72. Jacobi 1970b (Natal 1900-1968). Maydon 1932: 116. Mentis 1970 (Umfolozzi). Owen-Smith 1973: 25-33, 678. Player 1967: 149. Schaurte 1962. Sidney 1965: 59. Simon 1966. Vincent 1969a (Zululand 1959-1968). Wallach 1966: 871 (1961, 1965).

Hunting: Coryndon 1894: 332-334. Gatti 1965: 76-78. Giebel 1855: 202. Selous 1893: 125-135.

Translocation: Anon. 1968f (Loskop Dam G.R., birth). Anon. 1973i (to Kruger N.P.). Bigalke 1968: 426 (to Loskop Dam G.R., births). Dixon 1964: 48 (to Mkuzi G.R.), 1966: 32 (to Ndumu G.R.). Grobler 1971 (to Malati G.R.). Jacobi 1970a: 29 (to Kruger N.P.). Pienaar 1970 (to Kruger N.P., 1961-1968, fate of animals). Vincent 1969a: 20, 21 (to Mkuzi and Ndumu G.R.).

'South Africa' only: Daniell 1805, pl. 30. Dollman 1937: 73. Noll 1873: 144.

Records: Borchers 1979: 220 (Uzerfontein, N. Cape province). Bryden 1893: 493 (R. Orange). Cave 1947: 142 (Chue Spring). Cooke 1950: 405 (Kuruman). Harris 1839: 371 (interior after passing Kurrichane). Maydon 1932: 116 (Transvaal, ca. 1830). Oswald & Vardon 1847: 182 (R. Makolwe, N.E. Transvaal). Oswald 1900: 138 (R. Mokolwe). Pienaar 1970: 157 (extermination in Transvaal). Schinz 1824 (Lataku, Betchuanaland). Schomber 1959: 550 (Cape province, no good reports). Selous n.d.: 184 (localities). Stevenson-Hamilton 1950: 45 (Kruger N.P., until 1850). Wahlberg 1845: 23 (Moriqwa).

Natal records: Astley-Maberly 1938. Bourquin et al. 1971: 35, fig. 37. Brooks 1876: 110 (beyond R. Tughe). van Bruggen 1965a (Umfolozzi, Hluhluwe). Cowles 1959 (Hluhluwe). Delegorgue 1847, t. 366-372. Dixon 1964: 48 (Mkuzi G.R.). Feely 1962 (Zululand, 1960). Guggisberg 1966a: 80. Hayman 1956: 4 (Umfolozzi, 1948). King 1962 (Umfolozzi). Kirby 1920: 225 (Umfolozzi). Mentis 1970 (Umfolozzi). Owen-Smith 1973: 678-687 (censuses 1959-1972). Player 1967: 149, 1972. Selous 1893: 125. de St. Croix 1961 (Hluhluwe). Schack 1958. Stott 1963 (Umfolozzi). Vincent 1969a (Hluhluwe-Corridor-Umfolozzi, 1959-1968).

5.9.13 *Sudan*

Review: Groves 1972: 2. Guggisberg 1966a: 84. Harper 1945: 409-410. Owen-Smith 1973: 16-18. Schomber 1966: 214-217, map 1. Sidney 1965: 55-56.

Status: Curry-Lindahl 1972: 263. Fitter 1968: 33. Grzimek 1958: 118. Hillman 1980a: 72. Owen-Smith 1973: 18. Reid 1952. Simon 1966, 1967, 1970, 1971. Stonehouse 1981: 62.

Hunting: Degerbøl 1949: 132-158. Mackenzie 1953 (rhino traps made by Dinkas).

Legislation: Chapman 1922: 45. Schomber 1966: 217.

'Sudan' only: Ansell 1967: 2. Blancou 1960: 101. Dollman 1937: 74. Fitter 1974b: 445. Fitzsimons 1920: 207. Lang 1920: 76. Lavauden 1945: 266. Micha 1958: 111. Player & Feely 1960: 20. Savidge 1961: 184. Schomber 1962: 149, 152. Stevenson-Hamilton 1950: 45. Trouessart 1908: 1353; 1909.

Records: Anon. 1946: 36 (south). Anderson 1949: 29 (Southern N.P., along Nile). Benzon 1947 (R. Jur, Bahr el Ghazal), van den Bergh 1955: 129 (Shambe), Blancou 1933: 19 (near Zaire border), 1935a: 60 (Oubangui border), 1958a (Wau, 1946). Bourdillon 1934 (Yei dt.), Brocklehurst 1931: 109 (Mongalla dt.), Chapman 1921: 409, 1922: 45 (Bahr el Ghazal, Bahr el Jebel), Christy 1923: 63, 1924: 152-154 (west bank of Nile; between Yei and Tambura; Haut Nile dt.), Degerbøl 1949: 132 (Gogrial dt.), Ferguson 1949 (Shambe), Foster 1967: 168 (Equatoria, Bahr el Ghazal), Hartmann 1868: 365 (Bahr el Jebel), Heller 1913: 38 (south), von Heuglin 1861: 15 (Bahr el Abiad), 1869: 301 (along Nile), Ionides 1953a: 131 (Yei dt., 1951), 1953b (Kajo Kaji, Yei dt.), Koek 1961: 326 (Nimule), Larken 1947 (Tambura dt.), Lavauden 1932 (localities in south), Mackenzie 1954: 20, map 65 (west bank of Nile), Maydon 1932: 117 (Bahr el Ghazal), Owen 1947 (west of Nile) T. Owen 1949 (Nimule), Reid 1952 (localities in Yei and Moru dts.), Roosevelt & Heller 1915, II: 661, 671 (S.E.), Scherren 1903 (south), Schomber 1963: 31 (south), Slater 1903 (left bank of White Nile), Setzer 1956: 570 (Bahr el Ghazal; near Uganda border), Simon 1971 (Bahr el Ghazal, Equatoria), Stevenson-Hamilton 1919: 348 (along Nile), Thomson et al. 1949 (Tonj, S. Sudan), Wilson 1979: 330 (S. Darfur province, review, not seen after 1951), Wykes 1964: 221 (Yei dt., 1951).

Lado district, records: Berger 1910a: 358, 1924: 144, 162-164. Chapman 1921: 409. Gibbons 1904, II: 221. Heller 1913: 36. Heppes 1958b: 273-280. Kirby 1920: 224 (discovered by Gibbons, 1900). Maydon 1932: 118. Powell-Cotton 1907: 381 (some shot). Roosevelt 1910a: 393ff, 1910b. Schouteden 1911: 119. P. Sclater 1900. Selous n.d.: 184. Thomas 1900. Trouessart 1909. Ward & Lydekker 1912.

5.9.14 Uganda

Review: Guggisberg 1966a: 83. Hagger 1945: 413-414. Kingdon 1979: 108 (map). Owen-Smith 1973: 16-18. Schomber 1966: 217-220, map 2. Sidney 1965: 56-58.

Status: Anon. 1963a, 1965e. Cave 1963a. Curry-Lindahl 1972: 262. Fitter 1968: 33, 1974b: 445. Grzimek 1958: 177, 1960a: 21. Hayes 1964: 6 (in 1954, 1959). Heppes 1958a: 29. Hillman 1980a: 73. Kingdon 1979: 118. Malpas 1980, 1981: 234 (Kabalega Falls N.P. extinct; Ajai G.R. extinct). Micha 1958: 111. Owen 1956: 29. Owen-Smith 1973: 18. Schomber 1963: 31, 1966 (in 1910, 1958, 1962-64). Simon 1971. Tennant 1964. Thomas & Scott 1935: 183. Uganda game dept. 1930: 27 (in 1925, decrease 1925-1928), 1950, 1952, 1953: 35, 1954: 306. Verschuren 1970.

Hunting: Heller 1913: 2-13, 42-51. Roosevelt 1910a: 393-420, 1910b.

Translocation: Anon. 1965e (to Murchison Falls N.P.), 1968d (Murchison Falls N.P., fate of animals), 1973e (Murchison Falls N.P., births). Blower 1963 (to Murchison Falls N.P.). Buechner et al. 1960: 264 (proposed from West Nile dt.). Foster 1967: 168 (to Murchison Falls N.P., 1961, 1964 from West Nile dt.), Hayes 1964 (to Murchison Falls N.P., 1961, 1964), hb. 1971 (Murchison Falls N.P., fate of animals). Henderson 1972 (Murchison Falls N.P., births). Malpas 1980 (to Kabalega Falls N.P., 1961, 1964). Savidge 1961 (from West Madi dt. to Murchison Falls N.P., 1961). Stonehouse 1981: 60 (to Queen Elizabeth N.P.).

Records: Bourdillon 1934 (Rhino Camp). Churchill 1962: 115, 123, frontispiece. Dickinson 1910: 90, 278 (Wadelai, shot by Churchill). Groves 1972: 2 (north of

R. Ora). Gyldenstolpe 1928 (Rhino Camp). Heppes 1958a: 29 (north of R. Ora, map). Heybroek 1926 (Rhino Camp). Temple-Perkins 1956: 6 (Kali-Obongi area).

West Nile and West Madh districts, records: Bere 1957: 11. Brocklehurst 1931: 109. Cave 1963a. Delme-Radcliffe 1904: 61. Foster 1967: 168. Ionides 1953a: 131. Johnston 1902, I: 373. Maydon 1932: 117, pl. 37. Owen 1956: 29. Roosevelt & Heller 1915, II: 660, 671. Schomber 1963: 31. Simon 1971. Stigand 1909: 280. Thomas & Scott 1935: 183. Uganda game dept. 1950, 1952, 1953, 1954.

5.9.15 *Zaire*

Review: Guggisberg 1966a: 83-84. Harper 1945: 411-413. Owen-Smith 1973: 16-18. Schomber 1966: 220-221, map 3. Sidney 1965: 55.

Status: Bourlière 1965c, tab. 4 (in 1960, 1963). Curry-Lindahl 1966b: 294, 1972. Fitter 1968: 33, 1974b: 445. Foster 1967: 168. Grzimek 1958: 118, 1960a: 21, 1971: 26. Hillman 1980a: 73. Micha 1958: 112. Owen-Smith 1973: 16-18. Schomber 1963: 31, 1966: 220. Simon 1971. Verschuren 1958: 408, 1970, 1971, 1975: 153.

Hunting: Lang 1920: 79-85.

'Zaire' only: Ansell 1967: 2. Bourgois 1955: 65. Dollman 1937: 74. Fitzsimons 1920: 207. Maydon 1932: 117. Player & Feely 1960: 20, 21. Savidge 1961: 184. Schouteden 1943: 115. Stevenson-Hamilton 1950: 45.

Records: Blancou 1935a: 60 (Oubangui, Sudan border). Christy 1923: 63 (N.E., across border from Maridi-Yambio), 1924: 153 (N.E.). Lang 1920: 76 (Uele), 1924a: 176, 1924b: 319, 322 (N.E. and Uele). Leplae 1925: 48, fig. 27 (R. Uele). Scherren 1903 (north). Schomber 1963: 31 (N.E.). Schouteden 1911: 220 (Uele), 1927: 21, 24, 28 (N.E. of Uele), 1945: 266 (Uele and Kibali-Ituri). Verschuren 1958: 408 (N.E.).

Garamba N.P., records: Backhaus 1960: 308. Bourlière 1965c, tab. 4. Curry-Lindahl 1966a, b, 1972. Fitter 1974b: 445. Foster 1967: 168. Groves 1972: 2. Grzimek 1958: 118, 1960a: 21, 1971: 26. Heymans & Colyn 1981. Ionides 1953a: 131. Micha 1958: 112. Muckar 1977. Owen 1956: 29. Savidge et al. 1977, 1978. Simon 1971. Verschuren 1970.

5.9.16 *Zambia*

Ansell 1959a (possible former occurrence in west), 1960a: 118 (possibly formerly S.W. Barotse), 1969: 176, 184.

5.9.17 *Zimbabwe*

Translocation: Condy et al. 1963 (to Matopos N.P. and Kyle Dam G.R., 1962). Rochat & Steele 1968 (reintroductions 1961-1967). Tomlinson 1977 (reintroductions 1961-1975, status 1975). Wallach 1966 (from Umfolozi to Kyle Dam G.R., 1966).

Records: Bryden 1893: 492 (Mashonaland), 1897: 181 (Matabeleland, 1894). Hillman 1980a: 72 (status). Kerr 1887: 290 (spoor in Mashonaland). Kirby 1920: 224 (extinct). Sclater 1890 (S. Mashonaland). Selous 1892 (Mashonaland; 100 miles N.W. of Salisbury; Limuga), 1907: 70 (R. Gwaii). Sidney 1965: 60-61. Tomlinson 1977: 145 (status 1880-1900).

5.9.18 *Alleged occurrence East of Nile*

Berger 1910b: 344 (one shot in N. Somaliland). Coryndon 1894: 330 (unlikely reports from Somaliland). Delmé-Radcliffe 1905: 185 (reports from banks of Kagera require confirmation). Grant 1872: 328 (Karagweh). von Höhnell 1892: 542 (count Teleki shot one on Leikipia plateau in Ethiopia; colour too light for

R. bicornis). Lang 1924a (Karagwe reported by Speke and Grant: wrong identifications). Leplac 1925: 49 (seen east of Nile?). Schouteden 1911: 120 (Somalia, according to Berger). Speke 1863: 619 (Karagwe). Speke in Sclater 1864a: 106 (Karagweh, Uganda, 'rather larger than the black animal'). Thomas 1900 (early records from Ethiopia).

5.9.19 Prehistoric distribution

General: Groves 1972: 2 (fossil record), 1975: 208-211 (fossil record). Guérin 1979: 284 (fossil record), 1980: 166-168 (review). Hooijer 1969 (E. Africa, pleistocene). Lang 1923: 161 (quaternary records).

Egypt: Wilson 1980: 96 (Gilf el Kibir, S. Egypt, 41,450 B.P.).

Ethiopia: Guérin 1976 (Shungura formation, lower Omo basin).

South Africa: Hooijer & Singer 1960 (Hopefield).

Tanzania: Foster 1957: 168 (Olduvai Gorge).

West Africa: Arambourg 1962: 370, 371, 376 (pleistocene of Tunisia). Boule 1900: 8 (Algeria, Lake Karar, fossil teeth).

5.10 ECOLOGY AND BEHAVIOUR

5.10.1 Review and field-work

Brehm 1877: 520ff. Jones 1979: 240. Laurie 1982: 332-337 (comparison with other species). Owen-Smith 1973 (field study), summarized in 1975.

5.10.2 General reports

Best & Raw 1975: 161. Haltenorth & Trense 1956: 207. Owen-Smith 1974a (radios help in field study). Stewart 1971 (placing radio transmitter).

5.10.3 Activity pattern

Coryndon 1894: 331. Dittrich 1971: 78. Fitzsimons 1920: 209. Foster 1960: 31. Groves 1972: 5. Haltenorth et al. 1979: 106. Heller 1913: 41. Heppes 1958a: 32, 1958b: 276. Jeannin 1951: 120. Kirby 1920: 232-234. Lang 1920: 71. Maydon 1932: 117. Micha 1958: 112. Owen-Smith 1973: 166-190. Player 1972: 133. Player & Feely 1960: 13. Roosevelt 1910b: 263. Roosevelt & Heller 1915, II: 664. Schenkel & Lang 1969: 31. Steele 1969: 5. Stevenson-Hamilton 1919: 348.

5.10.4 Associations

Backhaus 1964: 101-103. Burton 1962: 210. Dorst & Dandelot 1970: 169. Foster 1967: 170. W. Foster 1960: 28-31. Guggisberg 1966a: 89. Haltenorth et al. 1979: 105. Heller 1913: 40. Heppes 1958a: 31, 1958b: 275. Ionides 1953a: 130. Jeannin 1951: 120. Kingdon 1979: 112-115. Kirby 1920: 231. Malbrant 1936: 26 (no groups). Owen-Smith 1972b: 175, 1973: 229-242, 478-520, 1974b: 342, 1975: 341-345, 371-372. Roosevelt 1910b: 264. Roosevelt & Heller 1915, II: 664. Schenkel & Lang 1969: 30. Selous n.d.: 186. Underwood 1982.

5.10.5 Defecation and urination

van den Bergh 1955: 149-151. Bigalke et al. 1950: 526. Dittrich 1971: 77. Foster 1960: 30. Groves 1972: 5. Micha 1958: 113 (ritualized urination). Owen-Smith 1973: 103-107, 260-272 (ritualisation), 1975: 362-366. Player 1972: 140. Player & Feely 1960: 16, 17.

5.10.6 *Dung heaps*

Backhaus 1964: 97. Coryndon 1894: 332. Dales 1966 (marking territory). Fitzsimons 1920: 211. Guggisberg 1966a: 93. Heller 1913: 41. Heppes 1958b: 277. Hutchinson & Ripley 1954: 179. Kirby 1920: 235. Lang 1920: 86 (absent). Maydon 1932: 117. Micha 1958: 114. Owen 1956: 30. Player 1972: 140. Player & Feely 1960: 16. Potter 1947: 384, 1949: 137. Roosevelt 1910b: 264. F.C. Selous in Bryden 1899: 64.

5.10.7 *Dung scattering*

Coryndon 1894: 332 (absent). Foster 1960: 29. Heller 1913: 41 (absent). Player & Feely 1960: 17.

5.10.8 *Food*

Babault 1949: 10. Berger 1910b: 344. Bigalke et al. 1950: 527 (food, coprophagy). Brocklehurst 1931: 109. Burton 1962: 210. Dorst & Dandelot 1970: 170. Foster 1967: 170. W. Foster 1960: 128. Guérin 1980: 178. Groves 1972: 5. Guggisberg 1966a: 91. Haltenorth et al. 1979: 106. Heller 1913: 41. Heppes 1958a: 31, 1958b: 276. Hutchinson & Ripley 1954: 179. Ionides 1953a: 130. Jeannin 1951: 121. Jones 1979: 241. Kingdon 1979: 109. Kirby 1920: 236. Lang 1920: 75, 85. Letley 1962. Loose 1975: 29. Malbrant 1936: 26. Nelson 1978: 764. Owen 1956: 30. Owen-Smith 1973: 112-142 (diet), 142-151 (drinking); 1975: 339. Player 1962. Player & Feely 1960: 12. Roosevelt 1910b: 263. Roosevelt & Heller 1915, II: 664. Schütte 1970. Selater 1872c: 428. Selous n.d.: 186. F.C. Selous in Bryden 1899: 59. Wilson 1969: 9. Zeuner 1934: 35.

5.10.9 *Gait*

Foster 1960: 33. Lang 1920: 73. Owen-Smith 1973: 98-102.

5.10.10 *Habitat*

Burton 1962: 210. Christy 1924: 152. Dorst & Dandelot 1970: 169. Groves 1972: 4. Guggisberg 1966a: 92. Haltenorth et al. 1979: 106. Jeannin 1951: 120. Kingdon 1979: 109. Kirby 1920: 234. Lang 1920: 69. Malbrant 1936: 26. Player & Feely 1960: 10-12. Schenkel & Lang 1969: 30. Schouteden 1927: 21. Selater 1872c: 428. Zeuner 1934: 35.

5.10.11 *Home range*

Owen-Smith 1972b: 275, 1973: 190-225, 278-352, 1974b: 344, 1974c, 1975: 345-352, 370-375.

5.10.12 *Horn use*

Bigalke et al. 1950: 527 (tossing instinct). Foster 1960: 32. Owen-Smith 1971a, 1973: 153 (rubbing). Player 1972: 134 (rubbing). Skead 1971 (rubbing).

5.10.13 *Learning and memory*

Groves 1972: 5.

5.10.14 *Longevity*

Groves 1972: 4. Guggisberg 1966a: 59. Haltenorth et al. 1979: 107. Jeannin 1951: 122. Mentis 1972: 7. Owen-Smith 1973: 691-699. Player & Feely 1960: 18. Vincent 1969a.

5.10.15 *Play*

Dittrich 1971: 78.

5.10.16 *Population structure*

Bourlière 1965c, tab. 4 (biomass). Feely 1962. Groves 1972: 4. Mentis 1970 (biomass), 1972: 7. Micha 1958: 112. Owen-Smith 1973: 688-746. Player & Feely 1960: 17. Vincent 1969a.

5.10.17 *Relations with men*

Anon. 1946. Babault 1949: 10. Backhaus 1964: 96. Berger 1910b: 345. Brocklehurst 1931: 109. Burton 1962: 210. Coryndon 1894: 331. Dorst & Dandelot 1970: 170. Fitzsimons 1920: 211. Guggisberg 1966a: 96. Heller 1913: 40. Heppes 1958a: 31, 1958b: 275. Jeannin 1951: 122. Kirby 1920: 230. Lang 1920: 86. Malbrant 1936: 26. Oswell 1900: 141-145. Owen 1956: 27. Owen-Smith 1973: 665-677. Roosevelt & Heller 1915, II: 665. Schenkel & Lang 1969: 31. Stott 1963. Uganda game dept. 1950: 98. Wood 1851: 759.

5.10.18 *Relations with other animal species*

General: Haltenorth et al. 1979: 106. Lang 1920: 87. Owen-Smith 1973: 649-658, 661-665 (predation); 1975: 340.

Birds symbiosis: Groves 1972: 4. Guggisberg 1966a: 95. Kirby 1920: 240. Lang 1920: 88. Micha 1958: 112. Player & Feely 1960: 14. Schenkel & Lang 1969: 30. Stutterheim 1980 (pied crow).

Elephant: Backhaus 1964: 96.

Lion: Fitzsimons 1920: 210.

Other rhinoceros species: Anon. 1966b (fight with *D. bicornis*). Deane 1960 (peaceful meeting). Guggisberg 1966a: 89. Leuthold 1977: 127 (agonistic behaviour). Owen-Smith 1973: 655-658. Schenkel & Lang 1969: 30. Steele 1960 (*D. bicornis* gives way to *C. simum*).

Ungulates: Backhaus 1964: 97.

5.10.19 *Salt licks*

Owen-Smith 1973: 151 (mineral requirements).

5.10.20 *Senses*

Dorst & Dandelot 1970: 170. Fitzsimons 1920: 210. Foster 1960: 34. Groves 1972: 4. Guggisberg 1966a: 95. Haltenorth et al. 1979: 106. Heller 1913: 40. Jeannin 1951: 121. Kingdon 1979: 110. Kirby 1920: 236-238. Lang 1920: 85. Micha 1958: 112. Owen-Smith 1973: 109-111. Player & Feely 1960: 7. F.C. Selous in Bryden 1899: 60.

5.10.21 *Sleep*

Owen-Smith 1973: 102-103.

5.10.22 *Social behaviour*

General: Backhaus 1964: 103-105 (encounters). Leuthold 1977: 127, 222-224. Owen-Smith 1972b: 276, 1973: 390-478 (encounters), 1974b, 1975: 340.

Communication: Owen-Smith 1973: 322-390 (visual, tactile and olfactory displays), 1975: 362-366.

Fights: Heppes 1958b: 277. Hickman 1979. Kingdon 1979: 116. Lang 1920: 87. Player 1972: 139. Player & Feely 1960: 16. Schenkel & Lang 1969: 30.

5.10.23 *Speed*

Foster 1960: 34, Groves 1972: 5, Guggisberg 1966a: 89, Heller 1913: 41, Jeannin 1951: 121, Kingdon 1979: 110, Player & Feely 1960: 14, Selous n.d.: 186.

5.10.24 *Territory*

Backhaus 1964: 97, Dales 1966 (male territorial), Hutchinson & Ripley 1954: 179, Owen-Smith 1971b, 1972b: 277-279, 1973: 242-278, 288-295, 608-636, 644-648 (territory, changes, evolution), 1974b: 343-346, 1974c, 1975: 366-369, 370-379.

5.10.25 *Voice*

Dittrich 1971: 78, Dorst & Dandelot 1970: 170, Foster 1960: 30, Groves 1972: 5, Guggisberg 1966a: 99, Haltenorth et al. 1979: 106, Jeannin 1951: 121, Kingdon 1979: 112, Kirby 1920: 240, Owen-Smith 1973: 298-321, Player & Feely 1960: 14, Schenkel & Lang 1969: 30.

5.10.26 *Wallowing and bathing*

Foster 1960: 31, Groves 1972: 5, Guggisberg 1966a: 94, von Heuglin 1869: 302, Kirby 1920: 231, Lang 1920: 75, Natal Parks board 1953: 21 (stuck in small river), Owen-Smith 1973: 151-157, 1975: 339-340, Player 1972: 134, Player & Feely 1960: 13, Schouteden 1927: 22.

5.10.27 *Weapons*

Groves 1972: 5, Pitman 1956: 196.

5.11 REPRODUCTION

5.11.1 *Review*

Frechkop 1936: 13, Groves 1972: 4, Haltenorth et al. 1979: 107, Jones 1979: 242-243 (breeding in zoos), Klös & Frese 1981a: 16-17 (zoo animals), Owen-Smith 1973: 521-576, 1975: 369-371.

5.11.2 *Age of sexual maturity*

Frädrich & Frädrich 1973: 192, Heller 1913: 41, Heppes 1958b: 278, Mentis 1972: 6, Rawlins 1979, Vincent 1969a: 19.

5.11.3 *Birth*

Eriksen 1977, Owen-Smith 1973: 562-568.

5.11.4 *Calving interval*

Heller 1913: 42, Jones 1977: 127, Kingdon 1979: 117, Klös & Frese 1978, Lang 1920: 88, Mentis 1972: 6, Rawlins 1979, Vincent 1969a: 19.

5.11.5 *Courtship and copulation*

Backhaus 1964: 105, Eriksen 1977, Frädrich & Frädrich 1973: 192, Heppes 1958b: 278, Kingdon 1979: 117, Leuthold 1977: 152, Mentis 1972: 6, Owen-Smith 1972b: 277, 1973: 521-526, 536-548, 556-562, 1974b: 347-348, Player 1972: 183-186, Player & Feely 1960: 15, Schenkel & Lang 1969: 31, Wilson 1969: 9.

5.11.6 *Gestation*

Anon. 1968c, g, Asdell 1964: 534, Burton 1962: 210, Eriksen 1977, Foster 1960: 33,

Frädrich & Frädrich 1973: 192. Guggisberg 1966a: 97. Heppes 1958a: 35, 1958b: 278. Mentis 1972: 6. Owen-Smith 1973: 526. Player 1972: 139. Player & Feely 1960: 15. Potter 1947: 384. Schaurte 1969: 158. Schenkel & Lang 1969: 31. L. Smith 1968. Vincent 1969a: 19. Wilson 1969: 9.

5.11.7 *Hand-rearing*

Hill 1973a. Wallach 1969.

5.11.8 *Mating season*

Asdell 1964: 534. Fairall 1968: 201, fig. 18. Guggisberg 1966a: 96. Heller 1913: 42. Heppes 1958a: 35, 1958b: 278. Kingdon 1979: 117. Kirby 1920: 242. Klös & Frese 1981a: 16 (in zoos). Lang 1920: 88. Owen-Smith 1972b: 277, 1973: 529-536, 1974b: 317. Player 1972: 139. Rawlins 1979.

5.11.9 *Milk composition*

Dittrich 1971: 75. Groves 1972: 3.

5.11.10 *Mother's behaviour to child*

Babault 1949: 10. Dittrich 1971: 76, 79, 1972. Fitzsimons 1920: 210. Foster 1960: 28, 33. Guggisberg 1966a: 97. Maydon 1932: 117. Owen-Smith 1973: 568-576, 1974b: 349. Player 1972: 67. Player & Feely 1960: 15.

5.11.11 *Twins*

Player 1972: 95. F.C. Selous in Bryden 1899: 64 (presumed twins).

5.12 PARASITES

Babault 1949: 10 (Oestridae). Baker & Keep 1970: 41, 44 (Zululand, ticks). Bequaert 1916: 380-387 (review Oestrid larvae; larvae of Gyrostigma pavesii from stomach, Congo). van den Bergh 1955: 139 (no parasites found). R.D. Bigalke et al. 1970 (blood samples; Babesia sp. and Theileria-like piroplasm). Cobbold 1879: 401 (Gastrophilus rhinocerotis). Condry et al. 1963: 99 (fly larvae, nematodes). Groves 1972: 4 (ticks, flies). Guggisberg 1966a: 94 (list of ticks, biting flies). Keep 1970: 54 (Babesia). Lang 1976: 166 (in zoo animals). Lang 1920: 88, 89 (internal parasites; Tabanids, Lyperosia, Gyrostigma). Neitz 1965: 297 (Platyhelminthes: Anoplocephala magna sporadic). Owen-Smith 1973: 659-661 (review). Player 1972: 71, 191 (Gyrostigma, Amblyomma). Rodhain & Bequaert 1918: 448 (Gyrostigma pavesii). Roth 1968: 77 (Strongylidae, Spiruridae, Oxyuri). Silberman & Fulton 1979: 9 (in zoo animals). Zumpt 1962 (Gyrostigma pavesii), 1964 (ectoparasites, Zululand - review), 1965 (review).

5.13 VETERINARY STUDIES

5.13.1 *Review*

Jones 1979: 246-250 (review of diseases in zoo animals). Lang 1976 (review of diseases in zoo animals). Owen-Smith 1973: 659. Silberman & Fulton 1979.

5.13.2 *Records*

Groves 1972: 5 (eye lesions, anthrax). Haigh 1975 (constipation). Keep 1969 (snared animal). Nelson 1978: 766 (zoo animals). Schaller & Pilaski 1979 (pox in adult

female and young male). Schmidt & Hartfiel 1976 (enteric bacterial infection). Thomson et al. 1949 (enteritis). Weiss 1974 (skin infection of Trichophyton mentagrophytes). Young 1965a (eye lesion)

5.14 IMMOBILISATION AND TRANSLOCATION

Anon. 1964a (to different reserves). Ansell 1967: 2. van Bruggen 1965b: 79-81. Condy et al. 1963 (drugs, doses). Harthoorn 1962a (drugs, reactions, capture), 1962b (drugs, methods), 1966 (drugs), 1968: 219 (drugs, techniques), 1976: 195-200 (drugs, antidotes, techniques). Harthoorn & Player 1964 (drugs, reactions). Jacobi 1970b. Jones 1979: 244 (restraint in zoos). Keep 1968b (results of Fentanyl), 1971b, 1972, 1973a (drugs). Lang 1976: 165 (drugs). Nelson 1978: 765 (restraint in zoos). Owen-Smith 1973: 32, 92 (drugs, techniques). Pienaar et al. 1966 (capture, methods). Player 1967 (drugs, techniques, destinations), 1972: 245-249 (list of animals translocated from Zululand, 1961-1975). van der Post 1974 (from Umfolozi). Rochat & Steele 1968 (drugs, capture, transport, release). Steele 1969 (drugs, methods). Vincent 1968 (482 animals from Umfolozi, 1961-1968), 1969a, b, 1970a, b, 1971 (list of export). Wallach 1966 (drugs, methods).

5.15 MUSEUM SPECIMENS

General: Best & Raw 1975: 488-489 (present and former owners of record horns). Brandt 1878a: 56 (horn illustrated by Parsons 1743, pl. 3 fig. 6). Campbell 1821, 1822 (head brought to England). Lydekker 1911a (specimens in Liverpool, London, Pretoria, Tring, Wood Norton). Renshaw 1904: 141-149 (11 specimens). Roosevelt & Heller 1915, II: 672 (specimens in Brussels, Hamburg, London, Paris, Washington and Powell Cotton collection). *Amsterdam*, Artis zoo museum: Portielje 1940: 43 (head). A.F.J. Portielje in Schillings 1925: 111 (head, skull from Lado). *Berlin*, Zoologisches Museum: Berger 1910a: 370 (skin). *Birchington*, Powell Cotton museum: Maydon 1932: 119. *Calcutta*, Asiatic Society: Blyth 1863b: 138 (anterior horn). *Calcutta*, Indian museum: W. Schläter 1891: 205 (horn). *Cape Town*, South African museum: Bryden 1892 (head), 1893: 492. Müller-Liebenwalde 1895 (stuffed animal). F.C. Selous in Bryden 1899: 56, 58 (2 animals shot at Manyami river, 1882 and one by Carl Rhodes). Ward 1896: 289 (skull). *Cracow*, Polish Academy of Sciences: Kubiak & Dziurdzik 1973: 56 (mounted head). *Durban*, Natal museum: Kirby 1920: pl. 27. *Exeter*, Royal Albert memorial museum: Howes & Bamber 1970: 327. *Grenoble*: Lavauden 1934: 432 (horn). *Hamburg*, Zoologisches Museum: Nehring 1901 (skull). *Johannesburg*, University of Witwatersrand Medical Faculty: Schaurte 1966: 327 (two foetus). *Leiden*, Rijksmuseum van Natuurlijke Historie: Jentink 1887: 168, 1890 (skins), 1892: 197. Loose 1975: 36. *Liverpool*, Free museum: Gray 1868: 1029 (head). *London*, British Museum (Natural History): Dollman 1921: 87 (skull, horns). Gray 1843: 187, 1868: 1028. Groves 1971, figs. 20, 21 (horns). Loose 1975: 36. Schläter 1890. *London*, Missionary society: Campbell 1821, 1822. Gray 1868: 1029 (Campbell's

- specimen). Home 1822: 39 (Campbell's specimen).
- London, Royal College of Surgeons: Flower & Garson 1884, nos. 2155-2157. Gray 1868: 1028.
- Madrid: Cabrera 1911: 140 (horn).
- Marseilles: Lavauden 1932, 1934: 432 (horn).
- New York, American Museum of Natural History: Groves 1972, fig. 4 (skeleton). Osborn 1905 (Campbell's skull received 1902).
- Paris, Duc d'Orléans: T. Smith 1965: 115 (shot 1921).
- Paris, Muséum National d'Histoire Naturelle: Chenu & Desmarest 1858: 10 (skull from Delegorgue). Lavauden 1934: 432 (horns).
- Pietermaritzburg, University of Natal: Hickman 1979 (mounted male).
- Pittsburgh, Carnegie museum: Gibbons 1904, II: 221 (from Lado).
- Pretoria, Natural History museum: F.C. Selous in Bryden 1899: 58 (one shot in Zululand, 1894).
- Port Elisabeth: Shortridge 1942: 72 (horns).
- Saffron Walden, Museum: Falconer 1868, II: 402 (skeleton, S. Africa).
- Stockholm: Lönnberg 1920 (mounted specimen, Wahlberg 1845).
- Stuttgart, Naturalienkabinett: Berger 1910a: 380.
- Tervuren, Musée de Congo Belge: van den Bergh 1958 (skulls). Schouteden 1911: 124, 1945: 266.
- Tring, Rothschild zoological museum: F.C. Selous in Bryden 1899: 58 (one shot by Coryndon, 1893).
- Washington, United States National Museum: Hollister 1924 (17 specimens). Setzer 1956: 570.

5.16 EXHIBITION IN CAPTIVITY

5.16.1 Review

Crandall 1968: 508. Eriksen 1977: 33. Grzimek 1960a: 21. Klös & Frädrieh 1970 (studbook 31.12.1968), 1971 (studbook 1.11.1971). Klös & Frese 1977 (studbook 31.12.1976), 1978 (statistics), 1981a (studbook 31.12.1980, statistics). Player 1972: 248 (exports from Zululand, 1961-1975). Reynolds 1968: 9. Rookmaaker 1973b: 8 (captive births, 1967-1972). Vincent 1968, 1969b, 1970a, b, 1971 (exports).

Census of rare animals in captivity, International Zoo Yearbook 6: 446, 7: 371, 8: 367, 9: 291, 10: 323, 11: 334, 12: 392, 13: 372, 14: 422, 15: 422, 16: 438, 17: 363, 18: 434, 19: 415, 20: 476, 21: 362. Species of wild animals bred in captivity, International Zoo Yearbook 9: 233, 10: 268, 11: 279, 12: 333, 13: 336, 14: 385, 15: 380, 16: 399, 17: 322, 18: 392, 19: 370, 20: 438, 21: 325.

5.16.2 Various collections

Anon. 1968g (Krugersdorp, birth). Crandall 1968: 736 (Loskop Dam G.R., birth 1964). Lang 1976: 168 (circus Knie, 1950-1963). Meyer-Holzappel 1970 (circus Knie, Switzerland, arr. 1966). Schaurte 1969 (Krugersdorp, birth).

5.16.3 Zoological gardens

Antwerp: van den Bergh 1955 (2 C.s. cottoni, arr. 1950). Douliez 1979. Micha 1958: 111 (arr. 1950).

Berlin West: Klös 1963 (pair arr. 1963), 1969b: 246 (arr. 1963).

Boras: Berggren 1967 (in 1966).

Chicago: Reynolds 1962c (arr. 1962).

- Cologne*: Windecker 1970: 30 (arr. 1969).
Copenhagen: Eriksen 1977: 33 (3 arr. 1971, birth 1974).
Dvar Kralove: Still 1970 (4 present). Vagner 1980 (births).
Hanover: Anon. 1971c, i (birth 1971). Dittrich 1971 (arr. 1970, birth 1971), 1972 (birth 1971).
Lisbon: Florio 1973: 211 (pair).
Malloca: Ruhe 1970: 259 (arr. 1969).
Memphis: Reynolds 1965a (arr. 1964).
Milwaukee: Reynolds 1962c (arr. 1962).
Münster: Schaller & Pilaski 1979: 169.
New York: Reynolds 1962c (arr. 1962).
Oklahoma City: Reynolds 1964a (arr. 1963).
Philadelphia: Anon. 1974a (pair arr. 1974).
Phoenix: Reynolds 1964a (pair arr. 1963).
Pretoria: Anon. 1970i (birth 1970). Bigalke 1947 (arr. 1946), 1975 (arr. 1946, births 1967, 1969). Bigalke et al. 1950: 519 (arr. 1946). Cillié 1949. Foster 1960: 28 (arr. 1946). Potter 1947: 385 (arr. 1946). Schack 1947, 1950, 1958 (arr. 1946, 1949). L. Smith 1968 (arr. 1966, birth 1967), 1970 (birth 1969).
Rangoon: Gorgas 1971: 30 (pair arr. 1964).
Rotterdam: van Bemmelen 1963a (pair arr. 1963). van Doorn 1967 (pair).
San Antonio: Dolan 1972 (birth 1972). Roney 1972 (arr. 1970, 1971, birth 1972). Schmidt & Hartfiel 1976 (birth 1975).
San Diego: Anon. 1973j (3 births 1972), 1973k (birth 1973), 1976b (birth 1976). Dolan 1971 (20 arr. 1971), 1972 (4 C.s. cottoni, birth 1972). Dolan & Moran 1969: 61 (arr. 1962). Hill 1972 (birth 1972), 1973a (birth 1972), 1973b (birth 1973). Jones 1977: 27 (2 C.s. cottoni, 20 C.s. simum, 18 births). Rawlins 1979. Reynolds 1962c (arr. 1962). Seaton 1971 (20 arr. 1971). Strassburger 1976: 9 (3 births 1976).
San Francisco: Reynolds 1964a (pair arr. 1963).
Thoiry: Ruhe 1970: 253 (arr. 1968).
Tokyo: Sotani 1974.
Whipsnade: Anon. 1970h (possible arrival), 1973a (arr. 1973, birth 1973). Rawlins 1979.

CHAPTER 6

THE BLACK RHINOCEROS, DICEROS BICORNIS

6.1 REVIEW

Goddard 1966-1970. Groves 1967b. Reynolds 1963a. Ritchie 1963. Schenkel & Schenkel 1969b. Sidney 1965. Zukowsky 1965.

6.2 TAXONOMY AND NOMENCLATURE

6.2.1 Revisions

Brandt 1878a: 55 [see 1878b, c, 1879] (*Atelodus bicornis* with 3 varieties: *plasioceros*, with horn conical, bases touching, posterior horn 2/3 or 1/2 shorter than anterior; *porrhoceros*, with horn bases segregated, conical, posterior shorter than anterior; *platyceros*, with horns of equal size). Groves 1967b (*Diceros bicornis bicornis*, South Africa, Namibia; *D. b. chobiensis*, Angola; *D. b. minor*, East and S.E. Africa; *D. b. michaeli*, E. Africa; *D. b. brucii*, Somalia; *D. b. ladoensis*, Lado; *D. b. longipes*, Chad; some clines). Hopwood 1938, 1939 (*D. b. bicornis*, *D. b. holmwoodi*, *D. b. somaliensis*, unnamed Angolan and Nigerian races). Zukowsky 1965 [not 1964] (*Diceros bicornis bicornis*, S. Africa; *D. b. keitloa*, S.E. Africa; *D. b. keitloa* var. *minor*, S.E. Africa; *D. b. niger*, Namibia; *D. b. occidentalis*, Kaokofeld; *D. b. angolensis*, Angola; *D. b. chobiensis*, Chohe; *D. b. nyasae*, Nyasaland; *D. b. holmwoodi*, E. Africa; *D. b. rowumae*, S.W. Tanzania; *D. b. michaeli*, S. Kenya, N. Tanzania; *D. b. rendilis*, N. Kenya; *D. b. ladoensis*, Lado, Sudan; *D. b. somaliensis*, Somalia; *D. b. brucii*, E. Sudan, *D. b. atbarensis*, N.E. Sudan; *D. b. longipes*, W. Africa; unnamed form in Rhodesia and Zambia; key to subspecies).

6.2.2 Remarks

Allen 1939: 556 (*D. b. bicornis* and *D. b. somaliensis*). Ansell 1967: 6 (follows Hopwood 1939), 1978: 50 (*D. b. minor* in Zambia, possibly intergrading with *D. b. chobiensis*). Baker 1890: 89 (shape and length of horn not a good taxonomic character). Blancou 1954, 1958a (possible forest rhino in N.E. Zaire). Borchers 1979: 219-220 (2 varieties in Cape province). Brooks 1876: 110 (distinguished black rhinos 'with unequal horns' and 'with equal horns'). Dollman 1921: 82 (*D. b. bicornis* and *D. b. somaliensis*). Duncan 1892: 325 (*R. bicornis major*, *R. b. minor* and *R. keitloa*). Gordon-Cumming 1850, I: 249 (S. Africa, 2 varieties). Grout 1863: 295 (Zululand, 2 kinds - umkombe and ubejani - distinguished by size and temperament). Heinz 1933: 270, 275 (Namibia, skull possibly '*Diceros*'). von Heuglin 1877, II: 93 (Abyssinia, *R. bicornis*). von Höhnelt 1892: 542, 612 (E. Sudan and Somaliland, a third species besides *R. bicornis* and *R. simus*). Home 1823, pl. 69 fig. 3 (Campbell's rhinoceros differs from others). Joubert 1970 (populations of N. Namibia and Natal cannot be separated, both are *D. b. bicornis*). Lönnberg 1912a: 121-122 ('no pronounced racial difference between the rhinos at Guaso

Nyiro and those in East and South Africa'). Loose 1975: 11 (recognition of subspecies presently impossible). Maydon 1932: 252 (Kenya folk tale, a forest and a bush type). des Murs et al. 1850: 26 (many species according to number of horns). Neumann 1898: 122 (one species in Africa), 276, 283 (animals near Lake Rudolf smaller than others). Neumann 1900: 556 (E. Africa, one variety). Peters 1852: 179 (Mozambique, not distinct from other black rhinos; Camper's figure between *R. bicornis* and *R. keitloa*). de Pousargues 1897: 137-138 (recognised *R. bicornis*, S. and E. Africa; *R. holmwoodi*, Tanzania). Roth 1969: 17 (rivers are natural barriers). Schomber 1963: 32 (Sudan and N. Ethiopia, specimens differ from smaller *D. b. somaliensis*, possibly a separate subspecies). von Schreber 1835: 342 (doubtful species: Gordon's and Bruce's rhinos). Schultze 1913: 126 (Kanuri tribe of Nigeria know large species 'kargadan' and small species 'kumarima'). Schwarz 1920 (no distinction of subspecies). Stockley 1948: 75 (Kenya, appearance differs in some localities). Tjader 1911: 311 (Kenya, difference between rhino of plains and of bush in horn form and size of feet). von Wissmann 1901: 45 (Tanzania, plains and bush forms). Zukowsky 1965: 79-86 (specimens from North and South Rhodesia not assigned to subspecies).

6.2.3 Subspecies and synonyms of *Diceros bicornis*

Rhinoceros africanus Blumenbach, 1797: 126.

Type-specimen: not designated. Blumenbach (1797: 126) refers to Blumenbach (1796, pl. 7 fig. A) depicting the skull first figured and described by Camper (1780, 1782).

Type-locality: Cape of Good Hope.

Authorship: Camper (1780) mentioned '*Rhinoceros africanus*' but this is a description rather than a name in the Linnean binomial system. Geoffroy & Cuvier (1795a: 326) mentioned Camper's '*Rhinoceros africanus cornu gemino*', which appears in the title of Camper (1780) and it is a reference to that paper. The name is often attributed to Desmarest (1822) who used it describing a complete skeleton and skin in the Paris Muséum no. A. 7, 969 collected by Delalande at the Cape of Good Hope (see Allen 1939: 557, Schwarz 1920).

Taxon considered valid:

Rhinoceros africanus Blumenbach 1797. - Alexander 1838. Blyth 1862a, 1863b. Boitard 1842. Cuvier 1816, 1829, 1836a. Desmarest 1822. Dugmore 1910. Duvernoy 1854. Fischer 1814. Fresnel 1848. Gloger 1841. Griffith 1827. Harris 1838, 1839, 1840. von Heuglin 1861, 1869. van der Hoeven 1855. Holl 1900. Horsfield 1851. Jardine 1836. Kaup 1833. Khalil 1927. Kirk 1864. Lesson 1827, 1838. Noack 1891. Oswell 1847. Peters 1852, 1871. Schinz 1824. von Schreber 1835. W. Slater 1891. Smith 1833, 1837, 1838. Smuts 1832.

Rhinoceros (Atelodus) africanus: Zittel 1891.

Opsiceros africanus; Gloger 1841.

Diceros bicornis angolensis Zukowsky, 1965: 73.

Type-specimen: Museum Göteborg, no. 7594, skull of adult male collected by S. Sjölander on 11 November 1948.

Type-locality: Virui-waterhole in Mossamedes dt., South Angola.

Taxon considered valid:

Diceros bicornis angolensis Zukowsky 1965.

Diceros bicornis atbarensis Zukowsky, 1965: 141.

Type-specimen: British Museum (Natural History), no. 69.10.24.48, collected by W.T. Blanford.

Type-locality: Anseba valley, Erythraea.

Taxon considered valid:

Diceros bicornis atbarensis Zukowsky 1965.

Rhinoceros bicornis Linnaeus, 1758: 56 referring to Kolb (1719), Jacobaeus (1696) and Schroeckius (1686).

Type-specimen: Linnaeus 1758: 56 ('cranium tantum...nobis visum'; is indeterminate). Hopwood 1939: 453 (lectotype: the animal described by Kolb 1719). Zukowsky 1965: 32 ('holotype': Rijksmuseum van Natuurlijke Historie, Leiden, cat. a, skull collected at the Cape by Boie and Macklot, donated 3 June 1826 – see Mertens 1966, this 'holotype' is a neotype).

Type-locality: 'India' (Linnaeus 1758). Thomas 1911: 144 (restricted to Cape of Good Hope) – accepted by Allen 1939: 556, Ellerman 1954: 79, Groves 1967b: 271, Hill & Carter 1941: 148, Joubert 1970: 27, Lydekker 1916: 54, Schwarz 1920.

Remarks on Linnaeus: Hopwood 1939: 452, Rookmaaker 1981: 114. Thomas 1911: 144. Zukowsky 1965: 11-13.

Remarks: Ansell 1960a (nominate race in Zambia), 1967: 6 (this subspecies from Cape north to Zambesi River). Darling 1960: 150 (*D.b. bicornis* in Zambia). Gmelin 1789: 57 (*R. bicornis*, habitat in Asia). Grimwood et al. 1958: 467 (nominate race in Zambia). Joubert 1970 (*D.b. bicornis* in Natal and N. Namibia). Rookmaaker & Groves 1978 (new description of the subspecies and review of literature). Sweeney 1959: 57 (*D.b. bicornis* in Zambia).

Taxon considered valid:

Atelodus bicornis; Pomel 1853. – Brandt 1878a, b, c, 1879. Breuning 1924. Flower 1876, 1891. Steinmann & Döderlein 1890.

Biceros bicornis; Virchow 1910.

Ceratotherium bicornis; Hiley 1977 error for *C. simum*.

Diceros bicornis; Thomas 1901. – (Note: This combination was generally used after 1950.) – Babault 1949. Blancou 1933, 1935a. Chubb 1909. Frechkop 1936. Haagner 1920. Heinz 1933. Hindle 1947b. Hooijer 1946b. Jeannin 1936, 1945. Kuiper & Schneider 1940. Lavauden 1934. Malbrant 1936. Meinertzhagen 1938. Priemel 1930. Schwarz 1920. Schneider 1930. Thomas 1929. Zeuner 1934. Zwilling 1940.

Diceros bicornis bicornis; Shortridge 1934 – Allen 1939, Ansell 1960a, 1967, Bere 1958, Bligh & Harthoorn 1965, Ellerman et al. 1953, Groves 1967b, Guérin 1980, Guggisberg 1966a, Hall-Martin & Penzhorn 1977, Harper 1945, Heinichen 1970, Hitchins 1971, 1978, Hopwood 1939, Joubert 1970, King 1969, Krumbiegel 1960, Lancaster 1953, Mackenzie 1954, Moreau 1944, Pienaar 1963, Potter 1947, Ripley 1958, Ritchie 1963, Roberts 1951, Rookmaaker & Groves 1978, Roosevelt & Heller 1915, Sauer 1972, Schouteden 1945, Shortridge 1942, Smithers 1968, 1971, Swynnerton & Hayman 1951, Watson 1949, Zukowsky 1949, 1965.

Rhinaster bicornis; Gray 1862, 1868, 1869a, b. Jentink 1887, 1892.

Rhinoceros africanus bicornis; Delegorgue 1847. – Keller 1909.

Rhinoceros bicornis Linnaeus 1758. – (Note: This combination generally used before 1900 except when *R. africanus*.) – Alexander 1907, Augières 1935, Blancou 1932, Brocklehurst 1931, Broun 1905, Cox 1900, Davies 1953.

- Dickinson 1907. Drake-Brockman 1910. Fitzsimons 1920. S. Flower 1931. Foa 1908. Gleichen 1905. Gijzen 1960. Hobley 1926. Jacobi 1957a. Killermann 1910. Knottnerus-Meijer 1905. Letscher 1911. Lönnberg 1912a. Lyell 1910, 1912, 1913. Malbrant 1930. Matschie 1918. Mitchell 1911b, 1923, 1928. Murray 1932. Neumann 1900. Neveu-Lemaire 1924a, b, 1925a, b. Osborn 1900. Pease 1908. Picaud 1925. Peel 1900. Player 1972. Renshaw 1904. Rodhain & Bequaert 1918. Sayers 1930. Schouteden 1913. Schubotz 1912. Schultze 1913. W. Slater 1900. Siedler 1905. Statham 1922. Thomas 1911. Weber 1904. Wroughton 1907. Zammarano 1924.
- Rhinoceros (*Atelodus*) *bicornis*; Woodward 1898.
- Rhinoceros (*Diceros*) *bicornis*; Schouteden 1911. - de Beaux 1923. Foerander 1952. Friant 1950.
- Rhinoceros (*Diceros*) *bicornis bicornis*; Lydekker 1916. - Dollman 1921. Monard 1935.
- Rhinoceros *unicornis bicornis*; Linnaeus 1766.
- Rhinoceros brucei* Lesson, 1842: 159 (as: '*Rhinoceros bicornis* var. A. *Rhinoceros Brucei*, Blainv.'). The reference is to de Blainville (1817: 168, 1819) who described the 'rhinocéros de Bruce' after Bruce (1790).
- Type-specimen: undesignated. Zukowsky 1965: 132 (neotype Museum Berlin, no. 21392, coll. Binder - see Mertens 1966).
- Type-locality: Tscharkin, between Bahr Salaa and Athara, near Ras el Feel, Ethiopia (Schwarz 1920: 870, Zukowsky 1965: 132).
- Remarks: Ansell 1967: 6 (nomen nudum). Blanford 1870: 243 (Bruce's figure is *R. unicornis* with additional horn). Blyth 1862a: 153 (*R. unicornis* with additional horn). Brehm 1877: 518 (synonym of *bicornis*). Hollister 1924: 135 (nomen nudum). Lesson 1838: 514 (mentions Bruce's rhinoceros).
- Bruce's plate: Blumenbach 1791: 283 (from Buffon, with second horn). Bruce 1790, pl. facing p. 85 (rhinoceros of Africa). Desmarest 1822: pl. 41 fig. 2. Gombrich 1962: 70, fig. 59 (species unknown). Gowers 1952: 289 (from Buffon). Matschie 1918: 103 (from Buffon, with second horn). Strack 1819, pl. 76.
- Taxon considered valid:
- Diceros bicornis brucei*; Zukowsky 1949.
- Diceros bicornis brucei*; Zukowsky 1965. - Groves 1967b. Guérin 1980. Schlawe 1969.
- Rhinoceros brucei* Lesson 1842. - Chenu & Desmarest 1858.
- Rhinoceros camperi* Schinz, 1845: 335.
- Type-specimen: undesignated. Rookmaaker & Groves 1978: 125 (specimen described by Camper (1780, 1782) formerly in Groningen museum).
- Type-locality: Cape of Good Hope (Groves 1967b: 273, Schwarz 1920: 871, Zukowsky 1965: 33).
- Remark: Brehm 1877: 518 (synonym of *bicornis*). Gray 1868: 1025 (var. 2 *camperi* of *Rhinaster keitloa*).
- Taxon considered valid:
- Rhinoceros camperi* Schinz 1845.
- Rhinaster keitloa* var. *camperi*; Gray 1868, 1869b.
- Rhinoceros bicornis capensis* Gray 1868: 1025 (in list of synonyms), referring to Camper (1780) but the name does not appear there.

Type-specimen: not designated.

Type-locality: South Africa.

Authorship: the name was often attributed to Trouessart 1898: 757, see Allen 1939: 557, Groves 1967b: 273, Joubert 1970: 27. Brandt (1878a: 55) mentioned '*Rhinoceros bicornis capensis* P. Camper', *capensis* not italicized, which cannot be taken as a use of *R. b. capensis*.

Diceros bicornis chobiensis Zukowsky, 1965: 79.

Type-specimen: Museum Berlin no. 35745, coll. H. Mattenklodt.

Type-locality: Konsumbia, tributary of river Loma.

Taxon considered valid:

Diceros bicornis chobiensis Zukowsky 1965. – Groves 1967b. Guérin 1980.

Rhinoceros cucullatus J.A. Wagner in von Schreber 1835: 317-323.

Type-specimen: formerly in Zoologische Staatssammlung, Munich, destroyed in second world war (Zukowsky 1965: 134).

Type-locality: Ethiopia. Schwarz 1920: 871 ('Schoa').

Remarks: Allen 1939: 567 (status uncertain, listed as synonym of *D. b. somaliensis*). Blumenbach 1791: 283-284, pl. 45 (specimen in Mannheim museum is *R. unicornis* with two horns). Blyth 1863b (synonym of *R. sumatrensis*). Brandt 1878a: 45-48 (review, Asian species). Brehm 1877: 519 (synonym of *R. simus*). Gray 1868: 366 (*R. unicornis* with second horn). Hartmann 1868: 366 (from Ethiopia, status uncertain). von Heuglin 1877, II: 95 (status unsolved). Hopwood 1939: 453 (artefact). Lydekker 1916: 55 (in Abyssinia). Murray 1866: 338 (valid species in S. Ethiopia). Schillings 1925, pl. facing p. 104 (rhino in Tanzania as '*Ceratorhinus* aff. *cucullatus* Wagn.'). Schinz 1845: 337 (valid species described; '*hospitatur in museo Monacensi*'). Schwarz 1920: 871 (synonym of *D. bicornis*, possibly artefact). Wagner 1850 (specimen in Zoologische Staatssammlung, Munich; first plate in Blumenbach 1791). Zukowsky 1965: 133-136 (artefact; review).

Taxon considered valid:

Ceratorhinus cucullatus; Brandt 1878a, b, c, 1879.

Ceratorhinus aff. *cucullatus*; Schillings 1925.

Rhinoceros cucullatus von Schreber 1835. – Chenu & Desmarest 1858, Giebel 1855. Lydekker 1883. Murray 1866. Noll 1873. Schinz 1845. Schlegel 1857. Wagner 1850.

Rhinoceros (*Ceratorhinus*) *cucullatus*; Zittel 1891.

Rhinoceros (*Diceros*) *bicornis cucullatus*; Lydekker 1916.

Rhinoceros gordonii Lesson, 1842: 159 (as '*Rhinoceros bicornis* var. *B. Rhinoceros Gordonii*, (Blainv.)).

Type-specimen: not designated, but ultimately the specimens described and figured by Gordon in Allamand 1781 (Cave & Rookmaaker 1977).

Type-locality: South Africa (Schwarz 1920: 870).

Note: Lesson referred to de Blainville (1817: 168, 169) who described a '*Rhinoceros de Gordon*', also found in Desmarest (1822). Robert Jacob Gordon saw the rhinoceros in the western Cape province. His notes and drawings were first published by Allamand (1781) where the animal is said to have 7 cheek teeth in each half of both jaws, 28 in all (p. 11). This article was reprinted the next year in Paris (Allamand 1782) where the number of teeth is curiously 'corrected'.

possibly by Buffon, without any notice, into: 'il a vingt-huit dents en tout; savoir six molaires à chaque côté des deux mâchoires, & deux incisives en haut & en bas' (p. 81). This has raised misunderstanding (Cuvier 1812b: 16, Lesson 1827: 332) and possibly led to the recognition of this taxon (see Cave & Rookmaaker 1977: 151). Gordon's contribution to zoology is discussed by L.C. Rookmaaker, 'De bijdrage van Robert Jacob Gordon (1753-1795) tot de kennis van de Kaapse fauna', *Documentatieblad Werkgroep 18e-eeuw*, 46 (1980): 3-27; and his, 'De Gordon Atlas: achttiende-eeuwse voorstellingen van het Zuidafrikaanse binnenland', *Bulletin Rijksmuseum*, Amsterdam, 29 (1981): 123-135.

Remarks: Cave & Rookmaaker 1977: 150 (synonym of *D.b. bicornis*). Chenu & Desmarest 1858: 10. Desmarest 1819: 245 (rhinocéros de Gordon is possibly *R. simus*). Ellerman et al. 1953: 163 (nomen nudum). Gray 1868: 1027 (synonym of *C. simum*). Joubert 1970: 27 (nomen nudum). Lesson 1838: 514 (rhinocéros de Gordon is possibly *R. simus*).

Taxon considered valid:

Rhinoceros gordonii Lesson 1842. - Chenu & Desmarest 1858.

Rhinoceros bicornis holmwoodi: Sclater, 1893. Proposed provisionally.

Type-specimen: two horns donated by Frederick Hopwood obtained in Zanzibar, in collection of British Museum (Natural History). Hopwood 1939: 454 (lectotype: the straight horn figured by Sclater 1893, fig. 1, now BMNH, no. 94.3.3.1).

Type-locality: probably 'country of 'Udalia', situated at the N.E. point of Usukuma, 50 miles south of Speke gulf' (Sclater 1893), Tanzania.

Remarks: Ansell 1967: 6 (north of Zambesi to Guaso Nyiro), 1969: 176 (synonym of *D.b. minor*). Bryden 1899: 67 (remarkable horns obtained from ordinary black rhinoceros). Gregory 1896: 266 (name used for 'white' rhinoceros in Kenya). Hollister 1924: 135 (East Africa). Neumann 1898: 34 (not valid). de Pousargues 1897: 137 (Tanzania). Roosevelt & Heller 1915, II: 652 (not valid). Schouteden 1945: 264 (Zaire). Watson 1949: 185 (not valid). Wickenburg 1899: 410 (East Africa).

Taxon considered valid:

Diceros bicornis holmwoodi; Hollister 1924. - Ansell 1967. Hopwood 1939. Schouteden 1945. Zukowsky 1965.

Rhinoceros homewoodi; Elliot 1896 (lapsus).

Rhinoceros holmwoodi; Gregory 1896. - de Pousargues 1897. Swynnerton 1945.

Rhinoceros bicornis holmwoodi Sclater 1893.

Rhinoceros (*Dicera*) *bicornis holmwoodi*; Berger 1910b.

Rhinoceros (*Diceros*) *bicornis holmwoodi*; Lydekker 1916.

Rhinoceros keitloa Smith, 1836: 44.

Type-specimen: not designated. Hopwood 1939: 454, pl. 10 fig. 2 (holotype is specimen brought to England by Smith (1837), bought by British Museum in 1838, no. 38.6.9.101 - see Zukowsky 1965: 41).

Type-locality: 'country north and south of Kurrichaine' (Smith 1836) in N. Transvaal. Smith 1837: 7 (restricted to 'about 180 miles N.E. of Lattakoo' where type-specimen was shot).

Remarks: Blanford 1870: 243, 246 (Abyssinia). Brehm 1877: 518 (synonym of *bicornis*). Giebel 1855 (Spielart). Gray 1868: 1025 (*Rhinaster Keitloa* with 2 varieties: *Keitloa* and *camperi*). Groves 1967b: 272 (maybe synonym of *D.b. bicornis*), 274 (*Rhinoceros keitloa* Blanford 1870: 243 'not of A Smith, 1836'

synonym of *D.b. brucii*). Hartmann 1868: 365 (sexual variety of *bicornis*). Hopwood 1939: 454 (individual variation). Oswell 1847 (synonym of *R. africanus*). Peters 1852: 179. Roosevelt & Heller 1915, II: 652 (not valid). Sclater 1870: 324 (distinction uncertain). W. Sclater 1900: 306 (accidental variety). Selous 1881 (keitloa not different from *bicornis*). Wahlberg 1845: 427 (not a good subspecies, possibly sexually determined).

Taxon considered valid:

Diceros bicornis keitloa: Zukowsky 1949, 1965.
Rhinaster keitloa: Gray 1868, 1869a, b, c.
Rhinaster keitloa, var. *camperi*: Gray 1868, 1869b.
Rhinaster keitloa, var. *keitloa*: Gray 1868, 1869b.
Rhinoceros keitloa Smith 1836. – Andersson 1856. Blanford 1868, 1870. Buckley 1876. Drummond 1875, 1876. Duncan 1892. Falconer 1868. Hartmann 1868. von Heuglin 1877. Kirby 1899. Murray 1866. Noll 1873. Pöppig 1851. Schinz 1845. Schlegel 1857, 1872. Sclater 1870. Selous 1876. Smith 1838. Wood 1851.
Rhinoceros keitloa: [Blyth, 1870a.]

Rhinoceros ketloa Smith, 1837: 7 (lapsus for *R. keitloa*).

Taxon considered valid:

Atelodus ketloa: Pomel 1853.
Rhinaster ketloa: Gray 1862.
Rhinoceros ketloa Smith 1837. – Chenu & Desmarest 1858. Gray 1843. Layard 1861.

Rhinoceros kulumane Player, 1972: 25. Published without description but attributed to Drummond, who (1875: 84) distinguished a species locally known as *kulumane* in Umfolozi park, but which 'has not yet received a scientific name.' Later, Drummond (1876: 109) described his *Rhinoceros bicornis major*, 'the greater black species, known as the *kulumane* on the eastern side...'

Diceros bicornis ladoensis Zukowsky, 1965: 124. Proposed conditionally.

Type-specimen: Museum Munich, no. 1912/4201, coll. Hesselberg 3 Feb. 1912.

Type-locality: Shambe in Lado dt.

Remark: Mertens 1966 (proposed by implication, hence invalid).

Taxon considered valid:

Diceros bicornis ladoensis Zukowsky 1965. – Groves 1967b. Guérin 1980.

Diceros bicornis longipes Zukowsky, 1949.

Type-specimen: Senckenberg museum, Frankfurt am Main, no. 766 (839) A.54, adult female, coll. Herzog Adolf Friedrich zu Mecklenburg.

Type-locality: Mogrum, S.W. Chad.

Taxon considered valid:

Diceros bicornis longipes Zukowsky 1949. – Groves 1967b. Guérin 1980.
 Zukowsky 1965.

Rhinoceros bicornis major Drummond, 1876: 109.

Type-specimen: not designated.

Type-locality: South Africa.

Remark: Zukowsky 1965: 48 (synonym of *D.b. keitloa*).

Taxon considered valid:

Rhinoceros bicornis major Drummond 1876. – Duncan 1892. Selous 1876.

Diceros bicornis michaeli Zukowsky, 1965: 115.

Type-specimen: Museum Berlin, no. 46166, skull collected by W. Zietl.

Type-locality: between Engaruka and Serengeti, N. Tanzania.

Taxon considered valid:

Diceros bicornis michaeli Zukowsky 1965. – Groves 1967b, Guérin 1980, Hall-Martin & Penzhorn 1977.

Rhinoceros bicornis minor Drummond, 1876: 109.

Type-specimen: not designated.

Type-locality: South Africa, all country south-east of Zambesi river, Zukowsky 1965: 48 (Zululand selected).

Remarks: Ansell 1969: 176 (this subspecies in Zambia, is *D.b. holmwoodi*). Groves 1967b: 273 (East and S.E. Africa). Zukowsky 1965: 48 (variety of *D.b. keitloa*).

Taxon considered valid:

Diceros bicornis keitloa var. *minor*; Zukowsky 1965.

Diceros bicornis minor; Groves 1967b. – Ansell 1969, 1978, Guérin 1980, de Vos 1980, de Vos & Braack 1980.

Rhinoceros bicornis minor Drummond 1876. – Duncan 1892.

Rhinoceros niger Schinz, 1845: 335, referring to Alexander 1838.

Type-specimen: not designated.

Type-locality: 'Africa meridionalis partibus interioribus' (Schinz 1845). Schwarz 1920: 871 (restricted to Chuntop near Mt. Mitchell, Kuiseb mountains, Namibia).

Remark: Brehm 1877: 518 (synonym of *bicornis*).

Taxon considered valid:

Diceros bicornis niger; Zukowsky 1949, 1965.

Rhinoceros niger Schinz 1845.

Diceros bicornis nyasae Zukowsky, 1965: 93. Proposed conditionally.

Type-specimen: not designated.

Type-locality: around Lake Nyassa.

Remark: Mertens 1966 (proposed by implication, hence invalid).

Taxon considered valid:

Diceros bicornis nyasae Zukowsky 1965.

Opsiceros occidentalis Zukowsky, 1922.

Type-specimen: Museum Hamburg, no. 40056, young male, lived in Hagenbeck's Tierpark, Hamburg, 10 July 1914 – 15 October 1916.

Type-locality: Kaokofeld-Kunene region, S.W. Africa.

Remarks: Shortridge 1934: 412, 423 (S.W. Africa, synonym of *R. niger* if distinguishable from typical race). Zukowsky 1950: 216, 1954-56.

Taxon considered valid:

Diceros bicornis occidentalis; Shortridge 1934. – Guggisberg 1966a. Zukowsky 1949, 1950, 1954-56, 1965.

Opsiceros occidentalis Zukowsky 1922. – Wilhelm 1933, 1950. Zukowsky 1924.

Diceros bicornis palustris Benzon, 1947.

Type-specimen: not designated.

Type-locality: Bahr el Ghazal, S.W. Sudan.

Remarks: Ansell 1967: 6 (possibly synonym of *D.b. somaliensis*). Groves 1967b: 274 (synonym of *D.b. brucii*).

Taxon considered valid:

Diceros bicornis palustris Benzon 1947.

Diceros bicornis punyana Potter, 1947.

Type-specimen: not designated.

Type-locality: Hluhluwe, Zululand.

Remarks: Potter 1947 (a smaller, bad tempered variety called 'punyani' occurring besides the ordinary 'ubejani'). Zukowsky 1965: 48 (synonym of *D.b. keitloa* var. minor).

Taxon considered valid:

Diceros bicornis punyana Potter 1947.

Diceros bicornis rendilis Zukowsky, 1965: 122.

Type-specimen: Naturhist. Museum Stockholm, skull of 56, 5 cm length, collected by E. Lönnberg.

Type-locality: northern Guaso Nyiro, Kenya.

Taxon considered valid:

Diceros bicornis rendilis Zukowsky 1965.

Diceros bicornis rowumae Zukowsky, 1965: 94. Proposed conditionally.

Type-specimen: Museum Berlin, no. 14828 (5000 LH), coll. Rolle.

Type-locality: interior of Mikindani on river Rowuma, Tanzania.

Remarks: Mertens 1966 (proposed by implication, hence invalid).

Taxon considered valid:

Diceros bicornis rowumae Zukowsky 1965.

Rhinoceros bicornis somaliensis Potocki, 1897: 82, 102-104 (1900: 82-83), referring to rhinos shot by Swayne in 1892 'when it was recognised as a variety distinct from the central African form' but Swayne (1894, 1895) doesn't suggest that.

Type-specimen: not designated. Lydekker 1916: 55 (lectotype: figure in Potocki 1897, facing p. 104 - see Hopwood 1939: 455, specimen destroyed). Schwarz 1920: 870 (neotype: skull in British Museum (Natural History), no. 11.8.2.20, shot in Somaliland by R.E. Drake-Brockman - see Hopwood 1939: 455, pl. 11 fig. 2; Lydekker 1911b).

Type-locality: Somaliland.

Remarks: Ansell 1967: 6 (Abyssinia, Ethiopia). Hollister 1924 (northern Guaso Nyiro). Lydekker 1911b (comparison with E. African skull). Roosevelt & Heller 1915, II: 650-658 (differences from *D.b. bicornis*). Setzer 1956: 570 (Jubaland). Schwarz 1920: 870 (name in Potocki is *nomen nudum*; author should be Lydekker 1911; subspecies not distinct).

Taxon considered valid:

Diceros bicornis somaliensis; J. Allen 1914. - Allen 1939. Ansell 1967. Guggisberg 1966a. Hattenorth & Trense 1956. Harper 1945. Hollister 1924. Hopwood 1939. Krumbiegel 1960. Ritchie 1963. Roosevelt & Heller 1915. von Rosen 1953. Schomber 1963. Setzer 1956. Zukowsky 1949, 1965.

Rhinoceros bicornis somaliensis Potocki 1897, 1900. - Lydekker 1911b.

Rhinoceros (*Diceros*) *bicornis somaliensis*; Lydekker 1916. - de Beaux 1923. Dollman 1921.

6.2.4 *Lapses in names*

Diceros bicornis, Joubert 1970: 27.

Rhinoceros brucei, Gray 1868: 1025 (in list of synonyms, attributed to de Blainville).

Diceros bicornis brucei, Zukowsky 1949.

Rhinoceros homewoodi, Elliot 1896: 247 ('white variety' in Karagwe).

Rhinoceros ketloa, Smith 1837: 7 (see above).

Rhinoceros simus, Stockley 1948: 25 (for this species).

6.2.5 *Lists of synonyms*

Allen 1939: 556-557. Ansell 1967: 6. Ellerman et al. 1953: 163. Groves 1967b.

Groves & Rookmaaker 1978: 125. Joubert 1970: 27. Lydekker 1916: 52-54.

Murray 1866: 338. Schwarz 1920: 870-871.

6.2.6 *One-horned rhinoceros in Africa*

Blyth 1862a: 153, 1862d (information of Bruce, Smith, Livingstone). Brandt 1878a: 39-40, 56 (review). Carbou 1912: 66 (Tchad, absence of one-horned rhino). Fresnel

1848 (Sudan, one-horned rhino). Livingstone 1854: 300 (Zambia, animal with one horn). Smith 1837: 8 (inland, species with one horn). A.H. Smith 1968: 104-108 (Cape, various accounts of 'unicorn').

6.3 NAMES IN VERNACULAR

General: Best & Raw 1975: 164. Fitzsimons 1920: 213. Kingdon 1979: 92. Lyell 1913: 163 (Chinyanja, Chingoni). Matschie 1895: 97. Rode 1944: 161 (Sara, Banda, Kotoko, Baguirmien).

Angola: du Bocage 1890: 23. Morard 1935: 257. Statham 1922: 254.

Ethiopia: Bruce 1790: 90. Hartmann 1868: 363. des Murs et al. 1850: 26. von Rosen 1953: 38.

Kenya: Bennet 1914: 184. Berger 1910b: 361. Noack 1887: 195. Roosevelt & Heller 1915, II: 651. Stigand 1909: 280.

Mozambique: Kirk 1864: 655. Peters 1852: 179.

Namibia: Barnard 1952. Drummond 1875.

Nyasaland: Lyell 1912: 34.

Rhodesia: Chubb 1909: 124.

Somalia: Drake-Brockman 1910: 106. Funaioli & Simonetta 1966: 296. Ghika 1898: 177. von Heuglin 1861: 15. Maydon 1932: 235. Roosevelt & Heller 1915, II: 656. Swayne 1894: 321.

South Africa: Allamand 1781 (Hottentots). Bryden 1893: 489, 1899: 35. Drummond 1875: 84. Burchell 1836: 4. Gaerdes 1966: 231 (Herero). Harris 1839: 371. Nicolls & Eglington 1892: 62. Oswald & Vardon 1847: 183 (Bechuanas). Roberts 1951: 242. W. Sclater 1900: 304. Smith 1940, II: 204 (Baquans).

Sudan: Barth 1857: 278. Brocklehurst 1931: 111. Maydon 1932: 139.

Tanzania: Roosevelt & Heller 1915, II: 651.

Uganda: Watson 1949: 183.

West Africa: Blancou 1933: 19. Bourgoin 1955: 63. Carbou 1912: 66. Denham & Clapperton 1826: 194 (Chad). Jeannin 1930: 165 (Cameroon), 1945: 105. Zwillling 1940: 368.

Zaire: Foa 1908: 405. Frechkop 1936: 14.

Zambia: Ansell 1960a: 52. Sweeney 1959: 57. Wroughton 1907: 32.

6.4 EXTERNAL MORPHOLOGY

6.4.1 *Appearance*

Alexander 1838, II: 1. Allamand 1781, 1782, 1785. Andersson 1856: 388. Barrington 1803: 255. Barrow 1804, II: 125. de Beaux 1912: 562. Best & Raw 1975: 164. Boitard 1842: 405. Borchers 1979: 219. Brehm 1877: 517. Brink 1778: 37. Burchell 1824, II: 74. Burton 1962: 209. Camper 1780, 1782: 146-158, 162-171. Cave 1947, fig. 1, pl. 5. Chenu & Desmarest 1858: 9. Crandall 1968: 507. Cuvier 1829: 247. Dekeyser 1955: 313. Delegorgue 1847: 424. Desmarest 1819: 244. Dorst & Dandelot 1970: 166. Duncan 1892: 325. Faujas-St. Fond 1809: 197-199, pls. 9, 10. Fitzsimons 1920: pl. facing p. 213. Foa 1908: 405-410. Frechkop 1936: 14. Gatti 1965: 79. Gordon-Cumming 1850, I: 249-251. Groves 1967b: 270 (habitus-types). Guérin 1980: 29. Guggisberg 1966a: 33-35. Haltenorth et al. 1979: 104. Harris 1838: 376. von Heuglin 1877, II: 93. Heymans & Colyn 1981: 158. Jeannin 1936: 32. Lesson 1838: 513. Levaillant 1795, III: 57. Lydekker 1892b. Malbrant 1936: 22. Owen 1956: 27. Ritchie 1963: 55. Roberts 1951: 569. Rode 1944: 161. Rookmaaker & Groves 1978: 122. Schinz 1824. von Schreber 1835: 337. Schwarz 1920: 869. Slater 1870: 323, 1886a. Selous n.d.: 187. Shaw 1800: 202. Smith 1833: 179. 1838, 1940, II: 57. Somerville 1979: 162. Sparrman 1778, (1787) 1977: 80-84, 89-92. Strack 1819, pl. 76. Thunberg 1811: 320. Zammarano 1930: 166. Zeuner 1934: 34 (position of head). Zukowsky 1922, 1965.

6.4.2 *Colour*

Baines 1864: 395. Drummond 1875. Fitzsimons 1920: 219. von Götzen 1895: 143. Haagner 1920: 126. von Heuglin 1869: 301. Neumann in Bryden 1899: 45. Noack 1889: 107. Potter 1949: 128 (at birth). Roosevelt & Heller 1915, II: 653. Smith 1838.

6.4.3 *Absence of Ear conch*

Gewalt 1965. Goddard 1969b. Grzimek 1966. Guggisberg 1966a: 21. hb. 1970. Spinage 1960: 97. de Vos & Braack 1980 (unilateral earless male).

6.4.4 *Foetus*

Andersson 1856: 392 (size). Brauer 1910. Davies 1952. Toldt 1914. Wilson & Edwards 1965: 180 (size).

6.4.5 *Footprints*

Peel 1900: 276 (size). Pocock 1912.

6.4.6 *Hair*

de Beaux 1912: 562. van den Bergh 1970 (eyelashes). Cave 1969 (body hair, eyelashes, absence of facial vibrissae). Groves 1967a: 222. Kubiak & Dziurdzik 1973 (histology). Miller 1967. Roosevelt & Heller 1915, II: 653.

6.4.7 *Horn*

Anon. 1978c (artificial third horn). Baker 1890: 90. Bigalke 1946 (loss and growth). Blyth 1870a (bifid horns). Brocklehurst 1931: 111 (additional horns). Brouard 1978 (artificial horn, Lisbon zoo). Broun 1905: 297. Chapman 1908: 141 (extra horn). Flower 1889 (extra horn). Gewalt 1965. Gray 1869b: 397. Groves 1971 (review). Guggisberg 1966a: 21, 36, 37. Home 1821: 272. Jacobi 1957a (sawing off and growth). Lubach 1868 (extra horn). Lydekker 1892b (extra horn). Lyell 1910: 52.

(outgrowth behind 2nd horn). Nakagawa & Nishiyama 1959 (growth of broken horn). Natal Parks Board 1953: 21 (loss of horn). Parsons 1766. Ritchie 1963: 60 (structure). Roosevelt & Heller 1915, II: 652. Sclater 1893 (unusual horns). Spinage 1960: 95 (unusual form). Stockley 1948: 25. Tjader 1911: 131, 132. van de Werken 1966b: 25 (hornless animal). Willoughby 1889: 155 ('*Rhinoceros tricornis*').

6.4.8 Horn measurements

Alexander 1907: 394. Baines 1864: 395. Baker 1872: 247, 1890: 95. de Beaux 1923: 287 (Somalia). Bennet 1914: 184, 186. Best & Raw 1975: 489-491 (records). Best et al. 1962: 258. Bigalke 1946. Blanford 1870: 245. Brocklehurst 1931: 111. Bryden 1899: 36. Chapman 1908: 141, 180, 244. Cooke 1950: 401. Falconer 1868, II: 402. Field 1958. Gaerdes 1966: 231. Gray 1869b: 397. Grout 1863: 295. Guggisberg 1966a: 37, 1966c: 40. Haltenorth & Trense 1956: 413. Hardy 1959. von Heuglin 1877, II: 93. Kirby 1899: 337. Letscher 1911: 120. Levaillant 1795, III: 54. Lönnberg 1912a: 121. Lydekker 1892b, 1907c: 73. Lyell 1910: 22, 1912: 34, 1913: 164. Maydon 1932: 144. des Murs et al. 1850: 26. Noack 1891: 79. Ritchie 1963: 60. Rode 1944: 162. Roosevelt & Heller 1915, II: 655, 658. von Rosen 1953: 38. Rosevear 1939: 107. Sauer 1972. Sayers 1930: 404. Schillings 1925: 110. Selous 1893: 456, 1907: 191, 199. Steinhardt 1920: 42. Swayne 1894: 322. Ward 1896: 285. van de Werken 1966b: 25. Willoughby 1889: 141, 143.

6.4.9 Size

Alexander 1838, II: 1. Allamand 1781: 13, 1785. J. Allen 1914: 340 (Somaliland). Baines 1864: 396. Baker 1872: 246. Blancou 1935b: 59 (Congo). Bennet 1914: 185. Blanford 1870: 249 (Abyssinia). Boitard 1842: 405. Bourgois 1955: 63. Brink 1778: 37. Burchell 1824, II: 74. Burton 1962: 209. Camper 1782: 146-158, 162-171. Cave 1947, fig. 1, pl. 5. Cave & Rookmaaker 1977: 149, 150 (Cape). Chenu & Desmarest 1858: 9. Condy 1964: 32 (Rhodesia). Crandall 1968: 507. von der Decken 1869: 260 (Kenya). Dekeyser 1955: 313. Desmarest 1822. Dollman 1921: 82. Dorst & Dandelot 1970: 166. Drake-Brockman 1910: 106 (Somalia). Drummond 1875 (S. Africa). Faust 1964a: 30. Fitzsimons 1920: 219. Frädrieh & Frädrieh 1973: 190. Freeman & King 1969 (Kenya). Gaerdes 1966: 231. Giebel 1855: 200. Gordon Cumming 1850, I: 249. Guggisberg 1966a: 35 (Kenya). Haagner 1920: 126. Haltenorth et al. 1979: 104. Harris 1838: 376, 1839: 371. Heymans & Colyn 1981: 158. Hitchins 1968b. Jeannin 1936: 32, 1945: 105. Jobaert 1955: 52 (Zaire). Kingdon 1979: 92. Kirby in Bryden 1899: 36. Lenz 1835: 328. Leplae 1925: 47 (Zaire). Levaillant 1795, III: 54. Lydekker 1911b: 960 (Somalia, E. Africa). Lyell 1910: 22, 1912: 34, 1913: 163. Malbrant 1936: 25. Maydon 1932: 114. Meinertzhagen 1938: 434 (Kenya). Mentis 1970: 375. Neumann 1898: 196, 425 (Kenya). Neumann in Bryden 1899: 43. Peel 1900: 299 (Somaliland). Ritchie 1963: 55. Roberts 1951: 242. Rode 1944: 162. Rookmaaker & Groves 1978: 119, 123. Roosevelt & Heller 1915, II: 654, 658. Rosevear 1939: 107. von Schellendorf 1916: 9 (Tanzania). Schinz 1824: 290. Schneider 1930: 23 (E. Africa). von Schreber 1835: 334-337. W. Sclater 1900: 305. Selous n.d.: 187, 1893: 456. Shortridge 1934: 424. Silberman & Fulton 1979: 7. Smith 1833: 179, 1838. Smuts 1832: 61. Somerville 1979: 163 (Cape). Sparrman 1778. Stockley 1948: 25, 1950: 88. Talbot & Talbot 1961 (weight). Tjader 1911: 131. Thunberg 1811: 320 (Cape). Ward 1896: 285. Watson 1949: 185. Wilhelm 1933: 55, 1950: 12 (Angola). Wilson & Edwards 1965 (Zambia). Zammarano 1924: 225, 1930: 166, 1932: 64, 88 (Somalia). Zukowsky 1965.

6.4.10 *Size at birth and growth*

Anon. 1964b, 1965b, Bean 1941, Burton 1962: 209, Dittrich 1965, 1967, 1972 (growth), Faust 1958: 214, 1964b: 275, Frädrieh & Frädrieh 1973: 190, Freiheit 1971, Goddard 1973: 58, Greed 1967, Hays 1967, Hediger 1955, Kreag 1966: 87 (growth), McCrane 1967 (9 days), Reed 1969: 264 (growth), Rookmaaker 1973b.

6.4.11 *Skin*

Barrow 1804, II: 125 (impenetrable).

6.4.12 *Age classes*

Foster 1965 (7 groups according to dentition), Goddard 1970a (20 relative age classes based on dentition), Guérin 1980: 153-155 (comparison of subadult and adult skulls), Hitchins 1970 (immature animals), 1978 (according to tooth eruption and attrition), Roth & Child 1968: 220.

6.4.13 *Individual recognition*

Goddard 1966: 69, Hitchins 1969: 81, Mukinya 1976, Schenkel & Schenkel 1969b: 35.

6.4.14 *Sexual dimorphism*

Baker 1890: 105 (shape of horn), Foster 1965 (inability to sex skulls), Guérin 1980: 157, 158 (males larger than females), Harris 1838: 376 (size difference), Kirby in Bryden 1899: 36 (female's horn more slender and longer), Stockley 1950: 88 (possible sexual difference, Kenya).

6.5 ANATOMY

6.5.1 *Review and general dissection*

Cave & Rookmaaker 1977: 142-154 (Gordon's dissection of 1780 compared with recent data), Davies 1953 (foetus), Giebel 1855, Grassé 1955: 1108-1118, Rookmaaker & Groves 1978: 122 (review), Sparrman 1778, 1977, II: 83-86 (dissection of young Cape animal), Talbot & Talbot 1961 (weight of viscera), Wilson & Edwards 1965 (size and weight of internal organs, Zambian female).

6.5.2 *Organs*

Brain: Friant 1950, Holl 1900: 328, fig. 24, Oboussier 1956.

Epipharynx: Cave 1973: 655, 1974a: 136-139, 1974b.

Eye: Sparrman 1777, II: 91.

Heart: Cave 1981 (cardiac receptor system).

Hypophysis: Oboussier 1956.

Kidney: Meinertz 1972a.

Lymph: Cave & Aumonier 1962a: 212-213 (histology), 1963b (structure).

Mammæ: Ansell 1960a: 254.

Musculature: Kingdon 1979: fig. p. 84, Kyou-Jouffroy 1971, Meinertz 1972b (facial muscles).

Parathyroid: Cave 1976b: 437-439, Cave & Aumonier 1966 (histology).

Penis: Allamand 1781: 11, Camper 1782: 173, Cave 1964b: 577-581, Cave & Aumonier 1964c: 58, Kolb 1958: 381, Kuiper & Schneider 1940, Lönnberg 1912b: 29-31, Smith 1940, II: 58, Sparrman 1778, 1779, (1787) 1977, II: 90-91.

Placenta: Davies 1952, Ludwig 1962.

- Postcava*: Cave 1975: 561-562.
Reproductive organs: Kolb 1958: 381.
Salivary glands: Cave 1982.
Skin: Hiley 1977.
Sweat glands: Hiley 1977.
Stomach: Kolb 1958: 381.
Temporo-pterygoid ligament: Cave 1979b: 523.
Thymus: Cave 1963b, 1964a: 79-81.
Thyroid: Cave 1976b: 437-439, 1976c.
Tongue: Cave 1977: 274-281, 1980 (musculature).
Tonsils: Cave 1979a: 493-497.

6.6 OSTEOLOGY

6.6.1 Skull

de Beaux 1923: 287. Blumenbach 1810, pl. 7 (after Camper). Camper 1780, 1782. Cave 1959: 2 (foramen ovale distinct), 1965: 504 (lacrima epiphysis). Cuvier 1812b, 1st pl., 1836b, pl. 42 fig. 6, 7 (skulls Paris museum). Guérin 1980: 33-54 (description and size). Loose 1975: 8. Pander & d'Alton 1821: 21, pl. 9d. von Schreber 1835: 338. Schwarz 1920: 867-869 (characters, including foetus). Sparrman (1787) 1977, II: 86. Thénius 1955a (ossification of nasal septum). Zeuner 1934: 44-47 (ontogenesis of skull shape). Zukowsky 1922.

6.6.2 Skull measurements

Anderson 1966 (Zululand). de Beaux 1923: 288 (Somalia). Goddard 1970a: 106-108, 109-113 (Kenya). Gray 1868: 1032. Groves 1967b: 268. Guérin 1980: 49, 52. Hooijer 1973: 158, 161. Hopwood 1939: 448-449. Joubert 1970: 31-33 (N. Namibia and Natal). Lönnberg 1912a: 121. Loose 1975: 9-11, tab. 10 (Zeuner's angles in quartiles). Roberts 1951: 569. Rode 1944: 162. Rookmaaker & Groves 1978: 118-120 (D.b. bicornis). Schwarz 1920: 871. Zukowsky 1965: passim and tables between pp. 151 and 153.

6.6.3 Dentition

Allamand 1781: 11. Anderson 1966 (tooth replacement, dental formula, size, rudimentary incisors). de Beaux 1923: 287. de Blainville 1846: 51-58. Cave & Rookmaaker 1977: 141. Cooke 1950: 401. Cuvier 1812a, 2nd pl., 1836b, pl. 40. Dittrich 1974: 289-292 (eruption of deciduous dentition, rudimentary incisors, change of teeth). Falconer 1868, II: 403. Faujas-St. Fond 1809: 197 (number of teeth). Foster 1965 (seasonal changes in formation of molars). Goddard 1970a: 109 (dentition, eruption of teeth). Gray 1869c (rudimentary lower incisor). Groves 1967b: 271 (measurements). Groves & Rookmaaker 1978: 120. Guérin 1980: 54-73 (description, measurements). Haltenorth et al. 1979: 104. Hitchins 1978 (eruption, number of teeth, attrition). Hooijer & Patterson 1972: 18, 23, 24 (M² shape, size). Loose 1975: 8. Mohr 1950: 87, fig. 2-7 (milk molar). Owen 1845: 587ff. Ritchie 1963: 55. Rode 1944: 162. Schaurte 1966 (dental formula, development of teeth, size, structure). Schwarz 1920: 868. Vrolik 1830 (number of teeth, rudimentary lower incisor in some skulls). Wilson & Edwards 1965.

6.6.4 Postcranial skeleton

Cuvier 1822: 29-36. Davies 1953: 609 (foetus, skeleton). Giebel 1851 (comparison

with *R. tichorhinus*). Grassé 1955: 1111-1113. Groves & Rookmaaker 1978: 120. Guérin 1966, 1980: 74-152 (description of bones, measurements). Heller 1913: 15 (vertebral formula). Hooijer & Patterson 1972: 24 (humerus length). Kyou-Jouffroy 1971 (vertebral formula). Pouchet & Beauregard 1889: 198-200. Virchow 1910 (vertebral column of Ethiopian animal). Vrolik 1830 (number of ribs, 20-21).

6.7 PHYSIOLOGY

Bligh & Harthoorn 1965 (body temperature). Condy 1964: 31 (heart beats, respiration). Denney 1969: 163 (respiration, pulse, temperature), 1970: 215 (rectal temperature). Haigh 1977 (respiratory rate, rectal temperature, pulse rate). Hiley 1977 (thermoregulatory response to diurnal temperature change). Hofmeyr et al. 1975: 39 (rectal temperature, respiration, pulse rate before and after immobilisation). Howard 1964: 48 (copper content of liver). Jayasinghe & Silva 1972 (electrocardiogram, 12 year old male). Jones 1979: 242, 245 (vit. A and copper levels; haemoglobin and serum biochemistry). Kolb 1958 (body temperature, respiration, pulse, field of vision, blood smear, composition of urine and dung). Nelson 1978: 767 (blood parameters). Osterhoff & Keep 1970 (blood proteins). Osterhoff et al. 1972 (haemoglobins, 2 types). Silberman & Fulton 1979 (blood constituents, rectal temperature).

6.8 GENETICS

Heinichen 1969 (karyotype, $2n=84$), 1970: 72-74, 93 (chromosomes). Hungerford et al. 1967 (chromosomes, $2n=84$).

6.9 DISTRIBUTION AND STATUS

6.9.1 *Review and general reports*

Anon. 1961, 1963c, 1979 (status). Ansell 1967: 4-5. Bothma 1975: 89 (status S. Africa). Brooks 1967: 18. Dollman 1921: 82. Dorst & Dandelot 1970: 197. Fitter 1968: 34 (status). Grzimek 1958: 118 (status). Haltenorth & Trense 1956: 206. Haltenorth et al. 1979: 104. Harper 1945: 396-402 (review). Heck 1896: 1022. Hillman 1980a, 1980b, 1981 (status, conservation). Jeannin 1951: 123, 129. Kingdon 1979: 93 (map). Kirk 1968: 151. Klingel 1979 (review of present status). Klös & Frese 1981b: 5, 20 (status, map). Llopis 1974c. Mauny 1956: 257. Murray 1866: 338. de Pousargues 1897: 136-138. Ritchie 1963: 54. von Schreber 1835: 339. Simon 1966. Speke 1863: 106. Spinage 1962 (status). Ward 1896: 284.

6.9.2 *Angola*

Review: Hill & Carter 1941: 148. Monard 1935: 257. Sidney 1965: 63-64. Zukowsky 1965: 69, 73, 75, 78-79.

Status: Anon. 1961 (in 1960). Hillman 1980a: 71. Silva 1952: 345. Simon 1966. Wilhelm 1950: 12.

'Angola' only: Anon. 1967c. Guggisberg 1966a: 48. Johnston 1882: 4. Lavauden 1932.

Records: du Bocage 1890: 23 (in south). Hill & Carter 1941: 148 (south; not collected by American Museum expedition). Johnston 1906a: 712 note (lower R. Cunene, 1882). Mattenklodt 1936a: 100, 103 (Lujana), 1936b: 146-149 (R. Lombo,

between Quito and Kuando). Möller 1974: 102, 186 (R. Kalonga). da Silva 1952: 345, 346 (Moçâmedes dt., S. and S.E. Angola). Statham 1922: 239, 254 (localities in S. and S.E. Angola). Wilhelm 1950: 12 (S.E. Angola). Zukowsky 1924: 81 (Hukwefeld).

6.9.3 Botswana

Review: von Richter 1973. Sidney 1965: 67. Smithers 1968: 96, 1971: 200. Zukowsky 1965: 75-79.

Status: Hillman 1980a: 71. Rautenbach 1971: 6. von Richter 1973. Simon 1966. 'Botswana' only: Guggisberg 1966a: 48.

Records: Andersson 1856: 387-395 (Ngami), 1861: 117 (R. Okavango), 1946. Baines 1864: 153, 395 (S.W. of Lake Ngami; near Secakuama). Bryden 1893: 490 (R. Chobe, lake Ngami). Nicolls & Eglinton 1892: 63 (Chobe). Rautenbach 1971: 6 (north). Selous 1876: 179 (Tamusanka, R. Gwai, R. Chobe), 1893: 455 (R. Chobe).

6.9.4 Cameroon

Review: Dekeyser 1955: 314. Sidney 1965: 80-81. Zukowsky 1965: 155.

Status: Anon. 1961 (in 1958). Blancou 1960: 101. Hillman 1980a: 71. Simon 1966. *Hunting:* Jeannin 1936: 34.

'Cameroon' only: Guggisberg 1966a: 53.

Records: Augièras 1935: 61 (Garoua). Bourgoin 1955: 63 (central and N.E.). Happold 1973: 89. Jeannin 1930: 165 (south of R. Bénoué), 1936: 33 (north of R. Bénoué), 1945: 105 (localities in north). Kieffer 1953: 272 (reserves Boubandjide, Benoué, Faro). Lavauden 1932 (N.W.). van Lavieren & Bosch 1977: 9, 10 (Bouba Ndjida N.P.). Lieurade 1935: 4 (Logone-Birni). Mauny 1956: 259 (early reports). Meyer 1909. Rode 1944: 164 (north). Zukowsky 1949 (Garua). Zwilling 1940: 368 (localities in north).

6.9.5 Central African Republic (A.E.F.)

Review: Blancou 1960: 102. Sidney 1965: 79-80. Zukowsky 1965: 153.

Status: Anon. 1961 (in 1958). Blancou 1933: 19, 1958b: 404, 1960: 102. Bourgoin 1955: 63. Hillman 1980a: 71. Pfeffer 1981. Simon 1966.

Records: Anna 1950 (Ouham dt.). Augièras 1935: 62 (R. Oubangui). Blancou 1932: 201 (R. Chari, R. Ouaka, possibly R. Kotto), 1933: 19 (Ouaka dt., not in Kotto basin), 1935a: 54, 58 (absent from west; N. Ouaka dt., Koukourou to Ndélé), 1948: 11-12 (Oubangui-Chari, 1933-48, localities), 1958a: 312 (north of 7° N). Bourgoin 1955: 63 (central and east). Félix 1953: 58 (Birao dt.). Foureau 1905: 1049 (Gribingui). Jeannin 1945: 105-106 (localities). Pfeffer 1981 (localities). Rode 1944: 164 (south of Ndélé).

6.9.6 Chad

Review: Dekeyser 1955: 314. Malbrant 1930: 353, 1936: 23. Zukowsky 1965: 144, 151, 156.

Status: Blancou 1958b: 404, 1960: 101. Bourgoin 1955: 63, 1958: 374. Gromier 1933: 268. Hillman 1980a: 71. Pécaud 1925: 75. Simon 1966.

Hunting: Augièras 1935: 62-63. Carbou 1912: 69. George 1946.

'Chad' only: Bigourdan & Prunier 1937. Denham & Clapperton 1826: 194. Freydenberg 1908: 149. Guggisberg 1966a: 53.

Records: Adolf Friedrich 1921: 132 (localities). Alexander 1907: 300, 394 (R. Chari). Augièras 1935: 61 (R. Chari). Barth 1857: 278 (Logone). Blancou 1948: 11

(Oubangui-Chari, localities), 1958a: 312 (south). Carbou 1912: 69 (west). Fourreau 1905 (Kanem, R. Chari). George 1946: 127-139, pl. facing p. 157 (central). Kumm 1910: 136, 307 (R. Chari). Kund 1906: 4 (Bal Ili). Lavauden 1934: 436 (localities). Nachtigal 1881: 554 (absent from Logone). Pécaud 1925: 75 (localities). Rode 1944: 164 (S.E. of Melfi). Rohlf 1874: 331 (near Lake Chad). Schubotz 1912: 348 (R. Chari). Schultze 1913: 126 (west). Schwarz 1920: 867 (Moghrum, Modgel, Damran). Zukowsky 1949 (localities).

6.9.7 Congo (Brazzaville)

Blancou 1954 (Kellé, Ouesso, Dongon dts.), 1958a: 313 (north, present until recently). Cameron 1877: 202 (Ngombé 1874, 'huge white rhino'). Simon 1966 (status).

6.9.8 Ethiopia

Review: Guggisberg 1966a: 52, von Heuglin 1861: 15, Sidney 1965: 76-77.

Status: Anon. 1961 (in 1960), Hillman 1980a: 71, Simon 1966.

Hunting: Baker 1872: 242-248 (by Hamrans), 1890: 93, 105-111. Blanford 1870: 121-123, Potocki 1897: 102.

'Ethiopia' only: Blanford 1869, Drummond 1876, Lavauden 1932, 1934: 435, des Murs et al. 1850: 26.

Records: Baker 1872: 299, 328 (R. Royan, Mt. Nahoot Guddabi). Blanford 1870: 243 (R. Anseba). Blower 1968: 280 (Omo valley, Wollega prov.). Bolton 1973: 571 (R. Mwi 1967, 1973; Mago valley). Bruce 1790: 86 (north and central, localities). Drake-Brockman 1909: 113 (W. Ogaden, S. Boran), 1910: 106 (Haud valley; Ogaden). Escherich 1921: 33 (R. Omo, R. Awash). Hartmann 1868: 363 (N.W.). von Heuglin 1877: 93 (R. Anseba). Maydon 1932: 235 (Ogaden). Parkyn 1854: 248 (Tigre prov.). Peel 1900: 298 (E. Ogaden). Potocki 1900: 81, 102 (Ogaden). Roosevelt & Heller 1915, II: 656 (south), von Rosen 1953: 38 (western and southern border). Schomber 1963: 32 (west), Smith 1897: 30, 179, 213, 226, 229, 235, 238, 251 (Bodele; near Mt. Elwak; near Lake Stephanie). Sorrell 1952: 288 (south). Swayne 1894: 321-322 (localities), 1895: 297 (localities). Urban & Brown 1968: 346 (Omo valley). Zukowsky 1965: 125, 127, 139 (Ogaden; R. Anseba).

6.9.9 Ivory Coast

Review: Sidney 1965: 81.

Records: Bigourdan & Prunier 1937 (north). Blancou 1960: 101 (once present). Dekeyser 1955: 316 (Bouna). Jeannin 1945: 105 (Bouna, 1905). Guggisberg 1966a: 53 (last shot Bouna, 1905).

6.9.10 Kenya

Review: Guggisberg 1966a: 50-51, Kingdon 1979: 94 (map), Sidney 1965: 74-76, Simon 1962: 254-257, Stewart & Stewart 1963: 8, map (distribution ca. 1885). Stigand 1909: 283, Zukowsky 1965: 101-105 (Massailand), 117-119 (north).

Status: Anon. 1961 (in 1960), Hill 1979, Hillman 1980a: 71, Hillman & Martin 1979, Martin 1980a, Simon 1966, Stockley 1948: 25, Stonehouse 1981: 62, Swara & Hillman 1979.

Hunting: Anon. 1930a (poisoned arrows), Bennet 1914: 185, Chapman 1908: 91, 139, 169, 244, Hunter 1953: 155-175, Maydon 1932: 132, Neumann in Bryden 1899: 47 (Ndorobos), Ritchie 1963: 61, Schillings 1925: 97-119, Schoeller 1904, Stockley 1948: 26-34, Tjader 1911: 132.

Legislation: Grzimek 1965 (rhino not to be shot without license). Hill 1979. Ritchie 1963: 72 (trade in horns). Sandeman 1959 (attempt to stop illegal hunting).

Translocation: Anon. 1967f, 1968e (to Nairobi N.P. 1968). Brooks 1967: 17. Buechner et al. 1960: 264 (to North Frontier prov.). Carter 1965. Hamilton & King 1969, 1970. Harthoorn 1968: 219. King 1969. Möller 1966 (to S. Africa, 1961). Russell 1967a, b. Sutherst 1964 (to Tsavo N.P.).

'Kenya' only: Anon. 1930a. Dugmore 1910. Hobley 1922: 6. Johnston 1906a: 292. Lavauden 1932, 1934: 435. Lugard 1893: 517, 520. Ritchie 1931. Stott 1950b.

Records: Anon. 1952 (Kibwezi), 1977a (Amboseli). Arkell-Hardwick 1903: 28, 45, 164, passim (R. Tana; Uaso Nyiro). Astley-Maberly 1961: 20 (Nairobi N.P.). Bayer 1924: 6 (Mt. Elgon). Bennet 1914: 187 (localities). Berger 1910a: 217 (Lake Baringo; R. Uaso Nyiro), 1910b: 343 (Lake Solai). Bourlière 1965a (Tsavo, status 1961-63), 1965b (Samburu, census 1961). Broun 1905: 297 (Nyambeni mts., Aberdares). Chapman 1908: 91-96, 139, 169, 244 (Baringo, Lake Elmenteita, Lake Solai, R. Simba). Darling 1960: 21 (R. Tiva). Davies 1953: 593 (Pundu Milia). von der Decken 1869: 257 (Lake Jipe). Dickinson 1907: 80-82 (Laikipia, R. Tana, Uaso Nyiro). Dracopoli 1914: 247, 259 (Uaso Nyiro south bank). Dugmore 1925: 119, 163, 178, 198, 207, 226 (Marsabit, Nanyiki, Guaso Nyiro, R. Tana). Elliot 1896: 18 (Kikuyu country). Foster 1965: 118 (Tsavo East, reduction due to drought 1961). Glover 1970: 324 (Tsavo). Goddard 1969a (Tsavo), 1970a: 105 (Tsavo, decline 1960-61), 1970d (Tsavo). Graham 1929: 164 (mangrove swamps near coast). Gregory 1896: 113, 266, 269, 270 (near Lake Victoria, Laikipia dt., Lake Losuguta, Kapti Plains). Grogan & Sharp 1900: 197 (Lake Rudolph). Gromier 1934: 356 (Tsavo). Guggisberg 1966c (Amboseli). Hamilton & King 1969, 1970 (Nairobi N.P.). Haywood 1927: 117, 164 (Laikipia). von Höhnelt 1892: 92, 118, 191, 612, passim (localities). Hunter 1953: 155, 174 (Machakos dt.). Johnston 1886: 393 (Taveta), 354, (base of Kilimanjaro). Kearney & Vyvyan 1965 (Voi, Tsavo). Kenya Game dept. 1937 (Nyeri dt.). Lönnberg 1912a: 119 (Uaso Nyiro). Maxwell 1924: 91 (Uaso Nyiro). Maydon 1932: 115 (Baringo dt.). Moreau 1944: 73 (Mt. Kenya, up to 10,500 ft.). Mukinyi 1973: 391 (Masai Mara G.R., census 1972). A. Neumann 1898 (localities). O. Neumann 1900: 556 (Kavirondo). Neveu-Lemaire 1924a (near Lake Rudolph). Pocock 1928a (Mt. Kenya). Roosevelt 1910a: 88-94 (Wakamba area). Roosevelt & Heller 1915, II: 640, 651, 656 (localities). Russell 1967a (R. Athi). Schillings 1925: 105, 106 (Kibwezi, Lake Jipe). Schoeller 1901, I: 11-26 (south). Schomburgk 1910: 345, 363 (Maa hills, R. Ulanga). Smith 1897: 311, 332, 339, 347, 350, 359 (Lake Rudolf, Mt. Kulol, Guaso Nyiro). T. Smith 1965: 115 (Voi). Stockley 1950: 88 (R. Tana, Mt. Kenya, Embu). Stott 1950b: 189 (Nyeri dt., Wamba). Sutherst 1964 (Tsavo). Thomson 1883: 323 (Baringo), 130 (Masailand). Tjader 1911: 131, 132 (Laikipia, Sotik plain). True 1893: 479 (Taveta). Vandeleur 1898: 147 (Athi). van de Werken 1966a (Tsavo), 1966b (Amboseli), 1968 (Amboseli). Western & Sindiyo 1972 (Amboseli, census). Wickenburg 1899: 410 (Tsavo, Lake Jipe). Willoughby 1889 (Taveta-Kilimanjaro region). Woodhouse 1912: 31 (R. Yala), 1916: 74 (Tsavo).

6.9.11 *Liberia*

Johnston 1906b: 712 (presence asserted by Mandingos of northern parts). Maugham 1920: 176 (absent). Sidney 1965: 81.

6.9.12 *Makwi (Nyasaland)*

Review: Sidney 1965: 67, map 17. Zukowsky 1965: 92-93.

Status: Guggisberg 1966a: 48 (now extinct). Hillman 1980a: 72. Lugard 1893: 517. Simon 1966.

Records: Ansell et al. 1962: 46 (Karonga dt.). Evans 1979: 29 (Muaboi G.R.). Lyell 1912: 34 (N. Angoniland). Murray 1932: 329 (Kota-kota dt., Ngama dt., Nyika plateau). Schomburgk 1910: 233 (Lake Nyassa). Smithers & Tello 1976: 112 (central and south).

6.9.13 Mozambique

Review: Sidney 1965: 65-67, map 16. Smithers & Tello 1976: 112. Zukowsky 1965: 87-91.

Status: Anon. 1961 (in 1959). Hillman 1980a: 72. Simon 1966.

'Mozambique' only: Fitzsimons 1920: 214. Haagner 1920: 126. Kirk 1864: 655. Peters 1856.

Records: de Alcantara 1956: 302 (Gorongosa N.P.). Drummond 1876 (south of Limpopo). Fajardo 1953: 332 (Gorongosa N.P.). Gomes e Sousa 1955: 35 (Gorongosa N.P., Alto Molocue N.P.). Grogan & Sharp 1900: 52 (Mt. Chipero). Kirby 1899: 337 (north). Kirby in Bryden 1899: 38 (localities). Maugham 1910: 247 (Zambezia dt., localities). Nicolls & Eglinton 1892: 63 (Sofala bay). Peters 1852: 179 (south of 17° S). Stevenson-Hamilton 1950: 46 (localities in south). von Wissmann 1901: 113 (Kionga delta).

6.9.14 Namibia

Review: Gaerdes 1967. Joubert 1971. Sauer 1972. Sidney 1965: 64-65. Zukowsky 1965: 49-55, 65, 78.

Status: Anon. 1961 (in 1958), 1972d. Brand 1964a: 69, 1964b (in 1934). Hall-Martin 1979: 30. Hillman 1980a: 72. Simon 1966.

Hunting: Steinhardt 1920: 80.

Translocation: Hofmeyr 1975: 126-129 (to Etosha N.P.). Hofmeyr & de Bruine 1973 (to Etosha N.P.). Hofmeyr et al. 1975 (to Etosha N.P., 1970-72).

Records: Alexander 1838, I: 191, 299 (Chuntop and Fish R.), II: 56-59 (R. Kuiseb). Barnard 1952 (W. Kaoko). Bigalke 1958: 486 (Caprivi, Kaoko). Eloff 1977: 88 (Kaoko). Fischer 1914: 119-123 (Caprivi, Kaoko). Gaerdes 1966: 232 (map). Galton 1853: 267, 269, 270 (near Tounobis). Guggisberg 1966a: 48 (Caprivi). Hall-Martin 1979: 30 (Kaoko). Heinz 1933: 270, 275 (Kolmanskop). Hofmeyr 1975: 128 (Etosha N.P.). Joubert & Eloff 1971 (Etosha N.P.). Kuntz 1913: 447 (Kaokofeld, up to R. Ugab). Kunze 1909: 14 (Amboland, Kaokofeld). Levaillant 1795, III: 53 (one shot north of Orange river). Lundholm 1951: 183 (W. Kaoko). Range 1914: 65 (Namaland). Rautenbach 1971: 6 (R. Kuanda, wanderer from Botswana). von Richter 1973 (Caprivi). Sauer 1972 (R. Tumas). Shortridge 1934: 413 (Kaokofeld), 1942: 72 (Great Namaqualand 1779, 1895). Steinhardt 1920: 32, 42 (Kaoko). Thomas 1929: 110 (Otjiwan). Tinley 1971: 16. Wilhelm 1933: 55, 1950: 12 (Caprivi, localities). Zukowsky 1924: 80 (Kaoko, localities), 1965: 65-67, 78 (Kaoko, Caprivi).

6.9.15 Niger

Bigourdan & Prunier 1937 (localities). Blancou 1960: 101 (once present). Dekeyser 1955: 314. Guggisberg 1966a: 53 (Djerma-Ganda). Lavauden 1934: 436 (N.W. of Lake Chad).

6.9.16 Nigeria

Review: Mauny 1956: 259 (early reports). Sidney 1965: 81.

Status: Blancou 1960: 101. Bourgoin 1958: 374. Hapgood 1973: 89 (extinct).

Haywood 1932: 32. Shorthose 1932.

Records: Augières 1935: 61 (Benoué). Blancou 1960: 101 (north). Denham & Clapperton 1826: 194 (Borno). F.C. 1940: 14 (Gongola; north of Ogaja until 1925). Fourreau 1905: 1033 (Borno). Haywood 1932: 32 (Bornu, Andamawa, Bauchi junction). Johnston 1906b: 712 (N.E.). Lang 1920: 77 (Niger-Chari dts.). Nachtigal 1881: 386 (Borno). Rode 1944: 164 (around lake Chad). Rosevear 1939: 107 (Lake Chad region), 1953: 120, fig. 208 (N.E.). Schultze 1913: 126 (N.E., Borno-Yola). Shorthose 1931 (North; north of Yola in east), 1932 (north of Yola).

6.9.17 *Rwanda and Burundi*

Anon. 1961 (Rwanda, status 1959). Haezaert 1959 (translocation to Rwanda). Hillman 1980a: 72 (status). B. Kinloch 1967: 217 (Kagera N.P.). Schouteden 1943: 115 (Burundi), 1945: 265. Verschuren 1978: 217 (now absent from Burundi).

6.9.18 *Somalia and Somaliland*

Review: Funaioli & Simonetta 1961: 110, 1966: 296, fig. 4A. Guggisberg 1966a: 52. Sidney 1965: 76. Zukowsky 1965: 125-127.

Status: Anon. 1961 (in 1960). Hillman 1980a: 72. Simon 1966.

Hunting: Cox 1900: 93-99. Ghika 1898. Peel 1900: 298. Potocki 1897: 102, 1900: 81, 102. A.H. Straker in Bryden 1899: 49-52. Zammarano 1932, 1934: 219.

'Somalia' only: Drake-Brockman 1910: 106. Lavauden 1932, 1934: 435.

Records: J. Allen 1914: 403 (Cheringangi hills). Cox 1900: 93 (Burno; N.W. prov.). Drake-Brockman 1910: 106 (N.W. prov.). Ghika 1898: 177, 178 (N.W. and N.E. provinces). von Heuglin 1861: 15 (localities). Maydon 1932: 235 (Toyo plains in Ogo). Peel 1900: 298 (localities). A.H. Straker in Bryden 1899: 48 (Haud, Webbi Sheybelli). Swayne 1894: 321 (N.W. and N.E. provinces), 1895: 297 (N.W. and N.E. provinces). Turner 1937: 59 (near boundary pillar 84 of British Somaliland). Ward & Sorrell 1950: 33 (S. Jubaland). Wickenburg 1899: 409 (localities). Zammarano 1924: 174, 219-226 (Uebi Scebeli), 1930: 169 (localities), 1932: 55, 88 (Mahaddei).

6.9.19 *South Africa*

Review: Brand 1964b: 69. Buckley 1876: 291. Guggisberg 1966a: 46-48. Hitchins 1975. Hitchins et al. 1972: 18. Sidney 1965: 63.

Status: Anon. 1961 (in 1959). Brand 1964a: 2, 1964b: 69. Hall-Martin 1979. Hillman 1980a: 72. Simon 1966. Zukowsky 1965: 37, 48.

Hunting: Alexander 1838, I: 299, II: 3, 56. Baldwin 1894. Drummond 1875: 75-136. Fitzsimons 1920: 216-219. Gatti 1965: 79-85. Sparrman (1787) 1977, II: 87-89.

Translocation: Anon. 1970g (Zululand). Dixon 1966: 32 (to Ndumu G.R.). Hall-Martin 1979 (to S. African reserves). Hall-Martin & Penzhorn 1977 (to Addo Elephant N.P. 1961-62). Havenga 1970 (need in Kruger N.P.). Hitchins 1975. Hitchins et al. 1972 (to Kruger N.P.). Keep 1973a (Hluhluwe to Kruger N.P.). Keep et al. 1969 (Zululand). Möller 1966 (to S. Africa, 1961-62). Player 1967: 149 (Zululand). Verwey 1971. de Vos 1980 (to Kruger N.P.). de Vos & Braeck 1980 (to Addo Bush N.P. 1977).

'South Africa' only: Barrow 1807: 345. Bogaert 1711: 104. Frikk 1692: 33. Hesse 1690: 33. Layard 1861: 61. Methuen 1846: 152, 164, 193. Percival 1804: 158. de Rennefort 1702: 306. Smith 1833: 179. Smuts 1832: 61. Sonnerat 1782, II: 92. Steedman 1835, I: 69. Thunberg 1811: 320.

General records: Chapman 1868: 61 (R. Botletlie). Harris 1839: 371 (interior).

Roberts 1951: 242. Selous 1897: 125.

Cape Province records: Allamand 1781, 1782, 1785 (R. Gamka, not near Cape Town). Barrow 1806, II: 169 (Sitsikamma). Bateman 1961 (extinct in some dts.). Bigalke 1950: 5, 7 (early records). Blumenbach 1788: 136, 1797: 126 (Cape). Borchers 1979: 219 (N. Cape prov.). Bryden 1889: 286 (Cape, S. Cape prov.; last Addo Bush 1849). Burchell 1824, II: 126 (near boundary), 1836: 4 (Moshowa R. 1812). Cave 1947: 145 (Chuë Spring, Hot Station, shot by Burchell in 1812). Dollman 1921: 82 (extinct 1853). Fitzsimons 1920: 214 (last shot 1853). Forbes 1965 (18th century records). Forbes & Rourke 1980: 107, 124, 127, 136, 164, 166 (travel of William Paterson). Grobbelaar 1924: 177-180 (early records). Levaillant 1795, III: 56 (Quammedacka). Lichtenstein 1811, I: 558, 583, 590, II: 342 (Great Fish R., Karroo, Schietfontein). Mentzel 1921: 15, 27 (Cape 1785). Molsbergen 1916-1932 (early records 1652-1805). Mossop 1935: 98, 287, 318 (Cape 1760, 1779, 1792), 1947: 48 (Cape 1761). Paterson 1790: 49, 83, 88, 95, 126, 128 (localities). Raven-Hart 1971 (early records 1652-1702). van Riebeeck 1952, I: 68, 169, 268, 1955, II: 182, 1957, III: 470 (Cape). W. Sclater 1900: 305. Shortridge 1934: 415 (Uitenhage dt.), 1942: 72 (Little Namaqualand). Skead 1958 (Uitenhage and Cradock dts, extinct). Smith 1836: 44 (Kurrichaine), 1837: 8, 1838, 1939-40 (expedition 1834-36). Somerville 1979: 73 (near Prieska), 105, 106, 162 (between Prieska and Kuruman), 191 (Carnarvon). Sparrman 1778, (1787) 1977, II: 76 (Quammedacka). Wahlberg 1845: 422-427 (Moriqwa, Montili).

Natal records: Anon. 1970g (Hluhluwe). Attwell 1947: 26 (Hluhluwe, Mkuzi), 1948: 37 (Hluhluwe, Mkuzi). Baldwin 1894: 99, 102, 180 (N. Natal 1855-56). Bourquin et al. 1971: 34, fig. 36. Brand 1964a, b. Buckley 1876: 291. Cowles 1959. Delegorgue 1847, II: 416-420. Dixon 1964: 48 (Mkuzi G.R.). Drummond 1875: 121, 1876 (N. Natal). Ellerman 1954: 79. Findlay 1903: 183, 188 (Zululand localities). Fitzsimons 1920: 214 (Zululand). Gordon-Cumming 1850, I: 249-251. Grout 1863: 295. Haagner 1920: 126. Hitchins 1968a (Hluhluwe), 1975 (status). Hobley 1926: 44 (status). Kluge 1950: 159 (Umfolozzi). Mentis 1970 (Umfolozzi). van der Merwe 1962. Natal Parks Board 1953: 21 (Hluhluwe). Potter 1949: 128 (Hluhluwe). Ripley 1958: 173 (Umfolozzi, Hluhluwe). Stott 1963 (Umfolozzi). Swanepoel 1955 (Hluhluwe). Zukowsky 1965: 41-49 (localities).

Orange Freestate records: Fitzsimons 1920: 214 (last shot 1842). W. Sclater 1900: 306 (last shot 1842).

Transvaal records: Anon. 1960b: 81 (extinct in Kruger park). Bigalke 1947b: 221 (Kruger N.P. to 1938). Bryden 1889: 286 (Kaffraria). Drummond 1875: 125 (inland of Lourenço Marques). Fitzsimons 1920: 214. Grzimek 1960a: 21 (Kruger N.P. last seen 1920's). Haagner 1920: 126 (East). Hall-Martin 1979: 28 (Kruger N.P.). Harris 1840: 82 (Limpopo valley). Kirby 1896: 550 (localities, last shot R. Manunga 1891). Kirby in Bryden 1899: 38 (N.E.). Lavauden 1932 (N.W.). Lichtenstein 1811, I: 154 (Hartebeesfontein). Lownds 1952: 54 (Kruger N.P. to 1936). Möller 1974: 36 (R. Limpopo). Pease 1908: 32 (Sabi G.R.; Barberton 1904). Pienaar 1963: 22 (Kruger N.P.). Selous 1893: 99 (R. Sabi). Smith 1837: 8 (Lattakoo). S.A. nat. parks board 1936 (Kruger N.P.). Stevenson-Hamilton 1950: 46 (Kruger area).

6.9.20 Sudan

Review: Guggisberg 1966a: 52-53. Sidney 1965: 78. Zukowsky 1965: 122, 129-130, 139-142.

Status: Anon. 1961 (in 1953). Benzon 1947. Hillman 1980a: 72. Maydon 1932: 139. Schomber 1963: 34. Simon 1966.

'Sudan' only: Browne 1799: 260 (empire of Fûr). Johnston 1906b: 712. Myers 1876: 115, 147, 149, 255, 271. Schomber 1962: 149.

Records: Anon. 1946 (Torit, Mongalla). G. Allen 1914: 324 (West Nile dt.). Arkell 1937: 284 (N. Darfur rock painting; Zaghawa 1850 incorrect). Audas 1951: 14 (Wadi Maarna, N. Darfur). Barth 1857: 278 (west). Benzon 1947 (Bahr el Ghazal, north of R. Lol). Burckhardt 1822: 433 (Bahr el Ghazal). Chapman 1921: 282 (Bor). Forbes 1947 (west of Wan), 1949: 14 (Nimule G.R.; Gogrial 1947), 1950: 27 (Dinder dt., 1905-06). Gleichen 1905: 98, 109, 110, 148, 151, 161, 181, 307 (localities). Hartmann 1868: 363 (Blue Nile and West Nile dts. localities). von Heuglin 1877: 93 (east, localities). Larken 1947 (Rumbek dt.) Mackenzie 1950 (S. Bahr el Ghazal), 1954: 20, map 66 (prov. Equatoria and N. Bahr el Ghazal). Malbrant 1936: 23 (Bahr el Ghazal, last killed 1916). Maydon 1932: 139 (West Nile dt.). Owen 1947 (east bank only; one shot on west bank by Danish expedition). T. Owen 1949: 34 (Nimule G.R.), 1950: 24 (Bahrel Ghazal). Schomber 1963: 34 (S.E. corner, near R. Lol). Setzer 1956: 570 (Sennar; between Juba and R. Tori). Sutcliffe 1952: 21 (Aliah valley). Wilson 1979: 330 (S. Darfur prov.), 1980: 96 (N. Darfur prov., one improbable record).

6.9.21 Tanzania

Review: Guggisberg 1966a: 49. Kingdon 1979: 94 (map). Sidney 1965: 72-74. Swynnerton & Hayman 1951: 339. Zukowsky 1965: 100-105.

Status: Anon. 1961 (in 1960), 1965c (Ngorongoro, Olduvai). Borner 1981. Frame 1971: 693 (Ngorongoro). Grzimek 1960a: 217 (Serengeti, Ngorongoro). Grzimek & Grzimek 1960 (census 1958). Goddard 1967a (Serengeti census), 1967b: 133 (Ngorongoro, Olduvai). Hillman 1980a: 72. Hillman & Martin 1979. Lithgow 1960, 1961 (Ngorongoro). Simon 1966. Swam & Hillman 1979: 24. Swynnerton 1959. Turner & Watson 1964: 166 (Ngorongoro).

Hunting: Kandt 1905: 249 (trap with spears). Koenig 1953: 55-71. Kuhnert 1920: 96-109. Schillings 1925: 97.

Legislation: Grzimek 1965 (may be shot with license). Sayers 1930: 404.

Translocation: Denney 1969. McCulloch & Achard 1969 (in 1962, 1964).

'Tanzania' only: Haagner 1920: 127. Knochenhauer 1903: 260. Koenig 1965. Lavauden 1932.

Records: Adolf Friedrich 1909: 32 (Karagwe; not found north or west of R. Kagera). Brauer 1910: 389, 391 (Karagwe 1908). Burton 1860, I: 87, 247, 289, 300, II: 15 (Usagara mts, Gogo dt., Nyamwezi dt.). Cameron 1877: 132 (Mgunda Mgali 1873). Delmé-Radcliffe 1904: 61 (south of R. Kagera), 1905: 185 (right bank of Kagera). Dugmore 1925: 17, 40 (Ngorongoro). Elliot 1895: 340 (Karagwe). Elton 1879: 310, 352 (south). Fonck 1924: 117 (N.W., S.E. and Karagwe). Frame 1980 (Serengeti). Goddard 1967a (Serengeti), 1967b (Ngorongoro, Olduvai). von Götzen 1895: 40, 49, 143 (R. Bubur; Karagwe, east). Grant 1872: 328 (between Ugogo and Karagwe). Grzimek 1963: 186 (Ngorongoro). Grzimek & Grzimek n.d.: 96 (Ngorongoro), 1960 (Serengeti). Heck 1930: 73 (between lake Manyara and Eyasi). Johnston 1886: 354, 393 (Kilimanjaro), 1906a: 292 (absent from south; formerly near Lake Rukwa). Kandt 1905: 249 (Karagwe). Klingel & Klingel 1966 (Ngorongoro). Koenig 1953: 55, 57 (Kilimanjaro, N. Paree mts.). Kuhnert 1920: 96 (Kilimanjaro 1892). Larken 1953: 49 (Sue). Laurent & Guérin 1974. Lavauden 1934: 435 (around Mahengue and Kilimanjaro). Lithgow 1961 (Ngorongoro). Makacha et al. 1979 (Ngorongoro). Mwalyosi 1977 (Lake Manyara N.P., census 1975). Neumann 1900: 556 (localities). Noack 1887: 195 (east of Lake Tanganyika).

Roosevelt & Heller 1915, II: 640, 651, 657 (localities). Sayers 1930: 404 (W. Bukoba, Shanwa, Serengeti). von Schellendorff 1916: 9 (Lake Jipe, Ugueno 1891). Schillings 1925: 96 (Kilimandscharo, Massai plain). Schomburgk 1910: 259 (R. Luwego). T. Smith 1965: 116 (Yaida swamp). Speke 1863: 619 (Karagwe under R. simus). Stott 1950b: 189 (Kilimanjaro). Swynnerton 1945: 79 (Usukuma). Thomas 1885: 221 (Kilimanjaro). Thomas & Scott 1935: 385 (south of R. Kagera). True 1893: 479 (Kilimanjaro). Verschuren 1978: 217 (border with Burundi). Watson & Turner 1965: 98 (Lake Manyara N.P.). von Wissmann 1901: 43 (Kilima Ndjaro, Ugogo). Woodhouse 1916: 74 (Serengeti). Zukowsky 1965: 94-95 (Rowuma).

6.9.22 Uganda

Review: Guggisberg 1966a: 51-52. Kingdon 1979: 94 (map). Sidney 1965: 77.
Status: Anon. 1961 (in 1960). Bere 1958: 419. Grzimek 1965. Hillman 1980a: 73. Knowles 1911: 21. Malpas 1980. Owen 1956: 29. Simon 1966. Swara & Hillman 1979: 24.

'Uganda' only: Lavauden 1932, 1934: 435. Noack 1887: 195.

Records: Bere 1957: 12, 1958: 419 (Murchison Falls N.P.). Campbell 1957 (Karamoja 1925). Delme-Radcliffe 1904: 61 (north of R. Aswa). Field 1958 (Luyoro). Johnston 1902, I: 373-374 (north, as 'white rhino'). Knowles 1911: 21 (not west of Albert Nile). de Langsdorff 1910: 116-130, pl. 26 (Zokka). Malpas 1981: 234 (Kabalega Falls N.P., not seen). Owen 1956: 29 (Ankole, Lango, Muruzi). Roosevelt & Heller 1915, II: 615 (localities). Savidge 1964 (Kidepo valley N.P.). Shirley 1963 (Queen Elisabeth N.P.). Speke 1863: 619 (Madi dt.). Stigand 1909: 283 (not west of Nile; mt. Elgon). Stott 1950b: 189 (not west of Nile). Temple-Perkins 1956: 6 (east of Nile). Thomas & Scott 1935: 385 (Karamoja, Chua, Maruzi, Gulu). Watson 1949: 183-185 (Karamoja, Teso, localities). Zukowsky 1965: 100-101 (around Lake Victoria).

6.9.23 Zaire

Review: Sidney 1965: 78-79.

Status: Hillman 1980a: 73 (absent). Verschuren 1958: 409, 1975: 153 (extinct).

Hunting: Foa 1908: 412. Jobaert 1955.

Translocation: Grzimek 1963: 122 (Kenya to Congo 1962).

Records: Blancou 1954 (Dongou, 1 killed). Burrows 1898: 244 (Katanga, Manyema, M'boma). Foa 1908: 415 (S.E.). Guggisberg 1966a: 49 (Katanga). von Heuglin 1869: 302 (R. Kosanga; absent from Bongo). Jobaert 1955: 53 (Katanga 1910). Johnston 1908, I: 320, 349 (R. Lualaba, north of Mubangi-wele). Lang 1920: 27 (Uele), 1924b: 322 (extinct in Uele). Leplae 1925: 47 (Katanga 1912). Schouteden 1913: 284 (Kifumwazi, Katanga prov.), 1927: 24, 1943: 115 (Katanga), 1945: 264-265, fig. 287 (Katanga, localities; extinct in north). Verschuren 1975: 153 (Kabengele last shot 1957).

6.9.24 Zambia

Review: Ansell 1959b: 335-336, 1969, 1973, 1975, 1978: 50. Lancaster 1953: 46. Sidney 1965: 69-72, map 18. Zukowsky 1965: 79-80.

Status: Anon. 1961 (in 1958). Ansell 1952, 1957, 1960a, 1969, 1975, 1978. Darling 1960: 150. Grimwood et al. 1958. Guggisberg 1966a: 48. MacArtney 1970. Simon 1966.

'Zambia' only: Maydon 1932: 330.

Records: Aitkens 1905: 15, 21 (between R. Njoko and R. Lui; Batoka). Ansell

1952: 108-109, 1957: 24 (localities), 1960a: 52-53, map B (localities), 1965: 7 (N.W. province). Darling 1960: 14, 62, 73, 78, 150 (localities). Dowsett 1969: 221 (Luangwa valley). Gibbons 1898: 395 (Marotseland). Grimwood et al. 1958 (localities). Hughes 1933: 35, 193, 198, 229, 268 (Lake Bangweulu). Jordan 1959: 140-143 (localities). Letscher 1911: 61, 104, 106, 198 (R. Luangwa, Muchingas). Livingstone 1854: 300 (Barotse country). Lyell 1910: 49 (Machinga mts., R. Luangwa), 1912: 34 (N.E. Rhodesia), 1913: 163 (Machinga mts.). Mitchell 1966 (Luangwa valley G.R., Kafue N.P.). Schomburgk 1910: 185 (Lake Bangweulu). Sweeney 1959: 57 (localities in south and central provinces; possibly north prov.). Wroughton 1907: 32 (Luangwa valley).

6.9.25 Zimbabwe

Review: Fraser 1958: 470. Guggisberg 1966a: 48. Herbert & Austen 1972: 1-2. Kerr & Fothergill 1971. Roth 1967. Sidney 1965: 65. Zukowsky 1965: 79.

Status: Anon. 1961 (in 1959). Hillman 1980a: 72. Jackson 1972 (in 1968). Savory 1969: 25. Simon 1966.

Translocation: Anon. 1970a (to Gona re Zhou), 1970f (within Rhodesia), 1971a (to Gona re Zhou, 1970), 1971h (to Gona re Zhou N.P.), 1973d (in S. Rhodesia, 1970-71), 1973f (Zambesi valley to Gona re Zhou). Child & Savory 1964: 6 (to Wankie N.P. and Matopos N.P.). Condry 1964 (Lake Kariba). Davis 1972. Harthoorn & Lock 1960, 1962 (Lake Kariba). Herbert & Austen 1972: 2 (from Kariba, 1961-65). Jackson 1972 (to Gona re Zhou N.P.). Jones 1966 (Lake Kariba). Roth 1965 (Kariba to Wankie N.P. 1957), 1967: 228 (to S. Rhodesia). Verwey 1971 (to Gona re Zhou).

'Rhodesia' only: Fitzsimons 1920: 214. Haagner 1920: 126. Lavauden 1932.

Records: Baines 1864: 205 (R. Zambesi). Bulphin 1955: 81 (R. Lundi). Child 1968: 52 (Lake Kariba). Child & Savory 1964: 5 (Zambesi and Sabi valleys). Chubb 1909: 124 (Gwelo 1907). Cooke 1964: 18, fig. 7 (rock painting). Kerr 1887: 102, 259, 280, 290 (Mashonaland). Kirby in Bryden 1899: 38. Malcolmson 1952: 353 (Wankie N.P.). Nicolls & Eglinton 1892: 63 (Mashonaland, Matabeleland). Roth 1965 (Kariba, Operation Noah 1959-63). Roth & Child 1968 (Lake Kariba). Selous 1876: 179 (Tamusanka, R. Gwai), 1893: 438 (Mashonaland), 1907: 70, 102, 345 (R. Gwai), 1908: 188, 189 (N.E. Matabeleland 1878, R. Umfuli 1886). Shelton 1961: 77 (Zambesi valley).

6.9.26 Prehistoric occurrence

Guérin 1976 (fossil from Shungura formation, Lower Omo basin), 1979: 284 (list of fossil occurrences), 1980: 165-167, 171 (review). Hooijer 1973: 158, 166 (modern *D. bicornis* 4 million years old; small differences in dentition). Hooijer & Singer 1960: 117-121 (Hopefield, South Africa: skulls not distinguishable from recent).

6.10 ECOLOGY AND BEHAVIOUR

6.10.1 Review and general reports

Comprehensive studies: Joubert & Eloff 1971 (field study). Laurie 1982: 332-337 (comparison with other species). Schenkel & Schenkel 1969b (field study).

General reports: Anon. 1963b, 1970g (radio in horn to check movements). Anderson & Hitchins 1971 (radio tracking techniques). Best & Raw 1975: 164. Brehm 1877: 520. Capello & Ivens 1886: 184-189. Gaerdes 1967. Goddard 1969a, c (census techniques). Gromier 1949: 7-96 (observations during rhino's first year).

Grzimek 1966 (shutting ear hole by muscle movement). Haltenorth & Trense 1956: 206. Hitchens 1971: 2-8 (study techniques, radio transmitter). Jones 1979: 240. Pécaud 1925: 75, von Schreber 1835: 339-341. Spinage 1962.

6.10.2 *Activity pattern*

Andersson 1856: 394. Babault 1949: 8. Baker 1872: 248. Dorst & Dandelot 1970: 168. Fitzsimons 1920: 215. Foa 1908: 410. Frame 1971: 694. Goddard 1967b: 136-140. Grobbelaar 1924: 173-176. Guggisberg 1966a: 45, 55. Haltenorth et al. 1979: 104. von Heuglin 1877, II: 93. Hitchens 1971: 11, 12. Jackson 1894: 258. Jeannin 1936: 33, 1951: 120. Joubert & Eloff 1971: 28-31. Kirby 1899: 337. Kirby in Bryden 1899: 38. Malbrant 1936: 24. Neumann in Bryden 1899: 45. Ritchie 1963: 56. Roosevelt & Heller 1915, II: 642. Schenkel & Lang 1969: 14. Schenkel & Schenkel 1969b: 50-54, 1969d: 761. Stevenson-Hamilton 1950: 47. Stott 1948. A.H. Straker in Bryden 1899: 49. Taberer 1959. Watson 1949: 186. Wilhelm 1950: 13. Willoughby 1889: 166. Wood 1851: 757.

6.10.3 *Associations*

Andersson 1856: 395. Ansell 1960a: 52. Babault 1949: 8. Baker 1872: 247. Berger 1910b: 343. Blanford 1870: 248. Bourgois 1955: 64. Dorst & Dandelot 1970: 166, 168. Dugmore 1925: 261. Fitzsimons 1920: 214. Frame 1971: 693. Giebel 1855: 201. Goddard 1967b: 139, 142. Haagner 1920: 126. Haltenorth et al. 1979: 105. Hamilton & King 1969: 77. Jeannin 1936: 57. Kingdon 1979: 99. Klingel & Klingel 1966: 304. Lang 1920: 86. Lyell 1910: 22, 1912: 34. Malbrant 1936: 24. Neumann 1900: 556. Oberländer 1903: 259. Ritchie 1963: 57. Roosevelt & Heller 1915, II: 641. Roth & Child 1968: 221. Schenkel & Lang 1969: 19. Schenkel & Schenkel 1969b: 54. Schillings 1925: 109. Schinz 1824: 290. Spinage 1960: 98. Stigand 1909: 281. Swayne 1894: 332. Watson 1949: 186. van de Werken 1968: 210. Wilhelm 1933: 55, 1950: 13.

6.10.4 *Defecation and urination*

Babault 1949: 9. Goddard 1967b: 143. Guggisberg 1966a: 57. Joubert & Eloff 1971: 34-36. Kingdon 1979: 98. Kirby 1920: 235. Ritchie 1963: 57. Schenkel & Schenkel 1969b: 76-83 (ritualisation), 1969d: 761.

6.10.5 *Dung heaps*

Attwell 1948: 40. Baker 1890: 93. Chadwick 1930: 116. Dorst & Dandelot 1970: 168. Fitzsimons 1920: 216. Frame 1971: 698. Hutchinson & Ripley 1954: 179. Lang 1920: 86. Lönnberg 1912a: 120. Owen 1956: 30. Ripley 1958: 173. Roosevelt & Heller 1915, II: 642. Schillings 1925: 109. Stevenson-Hamilton 1950: 47. Stigand 1909: 281. Walker 1971. Watson 1949: 187. Wilhelm 1933: 55, 1950: 13.

6.10.6 *Dung scattering*

Attwell 1948: 40. Babault 1949: 9. Barrington 1803: 255. Drake-Brockman 1910: 106. Foa 1908: 411. Goddard 1973: 63. von Heuglin 1877, II: 95. Kirby in Bryden 1899: 39. Koenig 1953: 71. Leuthold 1977: 91. Levailant 1795, III: 59. Lönnberg 1912a: 120. Mattenklodt 1936b: 148. Neumann 1898: 250. Peel 1900: 298. Roosevelt & Heller 1915, II: 642. Schillings 1925: 109. Spinage 1960: 99. Stigand 1909: 281. Stockley 1948: 27. Wilhelm 1950: 13.

6.10.7 *Food*

Alexander 1838, II: 2. Andersson 1856: 391. Ansell 1960a: 52. Babault 1949: 8.

Baines 1864: 153. Baker 1890: 93. Blanford 1870: 247 (method). Bourgoïn 1955: 64. Brocklehurst 1931: 111. Campbell 1957 (standing on hind legs). Camper 1782: 176. Chadwick 1930: 97. Child 1968: 54. Crandall 1968: 507. Darling 1960: 91. Denyer 1962 (plants). Desmarest 1819: 244. Dixon 1966: 32. Dorst & Dandelot 1970: 168. Fitzsimons 1920: 214. Foa 1908: 410. Frame 1971: 694. Ghika 1898: 178. Giebel 1855: 201. Goddard 1968 (food, coprophagy), 1970b: 148-160, 1970d: 5-7. Gordon-Cumming 1850, I: 249. Guérin 1980: 177. Guggisberg 1966a: 54. Haltenorth et al. 1979: 105. Hartmann 1868: 364. von Heuglin 1877, II: 95. Hitchins 1962 (plants). Hobley 1912 (Euphorbia). Hutchinson & Ripley 1954: 179. Jackson 1894: 258. Jeannin 1951: 121. Jones 1979: 241. Joubert & Eloff 1971: 10-15, 20. Kingdon 1979: 93, 95. Kirby in Bryden 1899: 39. Kirk 1864: 655. Klingel & Klingel 1966: 305 (coprophagy). Leprieux 1925: 47. Lönnberg 1912a: 120. Loose 1975: 29. Lyell 1910: 21, 1913: 163. Maydon 1932: 113. Mitchell 1966. Mohr 1950: 87 (coprophagy, difficulties when changing teeth). Mukinya 1973: 392, 1977 (comprehensive study). Nelson 1978: 764. Neumann 1898: 123. Neumann in Bryden 1899: 45. Owen 1956: 30. Potocki 1900: 106. Roosevelt & Heller 1915, II: 643. Schenkel & Lang 1969: 5, 16. Schenkel & Schenkel 1969b: 13-15, 1969d: 760. Schinz 1824: 290. Smith 1838. Spinage 1960: 100. Stevenson-Hamilton 1950: 47. Stigand 1909: 280. Watson 1949: 186. Wilhelm 1933: 55, 1950: 13. von Wissmann 1901: 45. Wood 1851: 756. Zeuner 1934: 33.

6.10.8 *Habitat*

Ansell 1960a: 52. Blanford 1870: 247. Bourgoïn 1955: 63. Bennet 1914: 187. Burton 1962: 209. Chenu & Desmarest 1858: 9. Dorst & Dandelot 1970: 166. Drake-Brockman 1910: 106. Evans 1979: 29. Fitzsimons 1920: 214. Fonck 1924: 111. Frame 1980. Goddard 1970a: 115, 117-119, 1970b: 146-148, 1970d: 4. Guggisberg 1966a: 46, 53. Haagner 1920: 126. Haltenorth et al. 1979: 104. Hartmann 1868: 364. Heck 1896: 1022. von Heuglin 1877, II: 93. Hitchins 1971: 11. Hobley 1922: 6. Hofmeyr 1975: 128. Hofmeyr et al. 1975: 36. Jeannin 1951: 120. Johnston 1886: 393 (bush). Joubert & Eloff 1971: 7-10. Kingdon 1979: 93. Kirk 1864: 655. Lönnberg 1912a: 120. Lyell 1912: 34. Malbrant 1936: 24. Mukinya 1973: 391-393. Neumann in Bryden 1899: 44. Oberländer 1903: 259. Ritchie 1963: 56. Roosevelt & Heller 1915, II: 651. Roth & Child 1968: 217-220. Sayers 1930: 404. Schenkel & Lang 1969: 5. Schenkel & Schenkel 1969b: 13-22. Smithers & Tello 1976: 112. Stigand 1909: 280. Stott 1948. Swayne 1894: 322. Zeuner 1934: 33.

6.10.9 *Home range*

Child 1968: 53. Dorst & Dandelot 1970: 168. Frame 1971: 685, 698, 1980: 160. Goddard 1967b, 1973: 60. Haltenorth et al. 1979: 104. Hamilton & King 1969: 77. Hitchins 1969, 1971: 10. Joubert & Eloff 1971: 22-24. Kingdon 1979: 98. Klingel & Klingel 1966: 305. Leuthold 1977: 46. Mattenklodt 1936b: 149. Mukinya 1973: 396-398. Schenkel & Lang 1969: 14.

6.10.10 *Use of horn*

Allamand 1781. Joubert & Eloff 1971: 34 (rubbing). Ritchie 1963: 61. Schenkel & Lang 1969: 18 (rubbing). Spinage 1960: 96. Stigand 1909: 282. Swayne 1894: 322.

6.10.11 *Learning and memory*

Fasnacht 1974 (visual learning), 1977 (memory and habituation to optical food selection). McCain & Stepter 1968 (discrimination learning and extinction in

experiments with zoo animals).

6.10.12 *Licking with tongue*

Brick 1960: 127 ('can completely skin the area it licks in a single stroke').

6.10.13 *Longevity*

Crandall 1968: 513 (captivity). Goddard 1970a: 112. Guggisberg 1966a: 69. Haltenorth et al. 1979: 105. Hofmeyr et al. 1975: 38. Klös & Frese 1981b: 13, 15. Mentis 1972: 9. Mitchell 1911a: 453 (captivity, 271 months). Reynolds 1963a: 101. Ritchie 1963: 55-56.

6.10.14 *Movements and paths*

Baker 1872: 248. Blanford 1870: 247. Dorst & Dandelot 1970: 168. Frame 1971: 698. Guggisberg 1966a: 45. Joubert & Eloff 1971: 36-40. Lönnberg 1912a: 120. Malbrant 1936: 24. Ritchie 1963: 56, 59. Schenkel 1966: 599. Schenkel & Lang 1969: 5, 14. Schenkel & Schenkel 1969d: 760-761. Swayne 1894: 322. Wilhelm 1933: 55.

6.10.15 *Play*

Anon. 1953b (with stones in zoo).

6.10.16 *Population structure*

Foster & Coe 1968: 417 (density, biomass). Frame 1980: 158-160, 162 (sex ratio, age structure, density). Goddard 1967b: 145, 1970a. Hall-Martin & Penzhorn 1977. Hitchins 1968a. Hofmeyr et al. 1975: 38 (sex ratio). Joubert & Eloff 1971: 42. Klingel & Klingel 1966: 303-305. Mentis 1970 (biomass), 1972: 9 (sex ratio). Mukinya 1973: 391, 395. Roth & Child 1968. Schenkel & Schenkel 1969b: 35-41. Western & Sindiyo 1972: 51.

6.10.17 *Relations with men*

Anon. 1953a. Andersson 1856: 392. Babault 1949: 8. Baker 1872: 246. Barrington 1803: 226. Bennet 1914: 185. Berger 1910b: 343. Blanford 1870: 248. Bryden 1889: 287. Burton 1962: 209. Camper 1782: 176. Carbou 1912: 67. Crandall 1968: 507. Delegorgue 1847: 421. Dorst & Dandelot 1970: 168. Eliot 1966: 266. Field 1958. Findlay 1903: 190-192. Fitzsimons 1920: 216. Foa 1908: 412. Fonck 1924: 111. Ghika 1898: 178. Gordon-Cumming 1850, I: 249. Grogan & Sharp 1900: 348. Grzimek 1963: 190. Grzimek & Grzimek n.d.: 39. Guggisberg 1966a: 40. Haltenorth et al. 1979: 105. Hamilton & King 1969: 81. Heck 1896: 1022. von Heuglin 1877, II: 94. Hobley 1922: 6. Jackson 1894: 251. Jeannin 1936: 34, 1951: 122. Johnston 1902, I: 372. Kirby 1920: 231. Knochenhauer 1903: 260. Lang 1920: 86. Leakey & Leakey 1953: 48. Letscher 1911: 113. Lönnberg 1912a: 125. MacKenzie 1950. Malbrant 1936: 24. Maydon 1932: 113. Maxwell 1924: 91. Mukinya 1973: 395. Neumann 1898: 21, 121. Neumann in Bryden 1899: 46. Owen 1956: 27. Potter 1949: 128. Ritchie 1963: 59. Roosevelt & Heller 1915, II: 645-650. Schenkel & Lang 1969: 9-13. Schenkel & Schenkel 1969b: 30. Schillings 1925: 114. Schinz 1824: 290. Selous n.d.: 188, 1908: 186. T. Smith 1965: 113ff. Steedman 1835, I: 69. Steinhardt 1920: 42. Stevenson-Hamilton 1950: 47. Stigand 1909: 281. Stott 1948, 1963. Swanepoel 1955. Swayne 1894: 322. de Vos & Braack 1980. Watson 1949: 186. van de Werken 1968: 207. Wilwerding 1945. Wood 1851: 756.

6.10.18 *Relations with other animals*

General: Eliot 1966: 267. Goddard 1967b: 141, 144 (predation), 1973: 59 (predation). Haltenorth et al. 1979: 105. Joubert & Eloff 1971: 15-19, 28 (competition), 48-49 (predation). Kingdon 1979: 103. Ritchie 1963: 60 (lion, elephant, buffalo). Roosevelt & Heller 1915, II: 641 (enemies). Roth & Child 1968: 221 (fights). Schenkel & Schenkel 1969b: 22-25 (enemies, symbiosis), 59-76 (behaviour when encountering other species); 1969d: 761 (aggression). Stott 1948 (enemies).

Birds, symbiosis: Alexander 1838, II: 3. Gromier 1934: 357. Guggisberg 1966a: 72. Hall-Martin & Penzhorn 1977: 155. Kirby in Bryden 1899: 40. Letscher 1911: 119. Schenkel & Lang 1969: 6-7. Schillings 1925: 107.

Crocodile: Guggisberg 1966a: 71. Hartmann 1971. Roosevelt & Heller 1915, II: 641. Selous 1908: 200-204.

Eland: Hall-Martin & Penzhorn 1977: 155.

Elephant: Anon. 1960a. Allamand 1781. Babault 1949: 9. Baker 1890: 90. Bax & Sheldrick 1963: 41 (food competition, Tsavo 1961). Chadwick 1930: 103. Darling 1960: 21 (dependance for making waterholes). Delegorgue 1847: 430. Duveen 1961. Frame 1971: 695. Glover & Sheldrick 1964: 36 (food competition, Tsavo 1961). Guggisberg 1966a: 70. Heath 1973. Jeffreys 1933. Koenig 1953: 66. Lyell 1913: 164. Mitchell 1966. Schenkel & Lang 1969: 8. Walker 1971. van de Werken 1968: 210.

Hippopotamus: Fonck 1924: 116. Guggisberg 1966a: 71.

Hyena: Frame & Goddard 1970.

Leopard: Chadwick 1930: 98.

Lion: Andersson 1861: 125. Frame 1971: 695. Grobbelaar 1924: 175. Grzimek 1963: 187. Guggisberg 1966a: 70. Hartmann 1971. Hofmeyr 1975: 128 (attacks subadults). Poles 1956. Schenkel & Lang 1969: 7. Watson 1949: 187.

Ostrich: Johnston 1902, I: 372.

Ungulates: Schenkel & Lang 1969: 7-8.

White rhino: Anon 1966b (fights). Deane 1960. Owen-Smith 1973: 655-658. Steele 1960.

6.10.19 *Salt licks*

Joubert & Eloff 1971: 20 (mineral needs). Mukinya 1977: 135. Schenkel & Lang 1969: 16.

6.10.20 *Senses*

Allamand 1781. Andersson 1856: 392. Babault 1949: 8. Barrow 1804, II: 125. Bennet 1914: 184. Berger 1910b: 343. Burchell 1824, II: 72. Crandall 1968: 507. Fasnacht 1974. Foa 1908: 412. Frame 1971: 698. Guggisberg 1966a: 38-40. Haltenorth et al. 1979: 104. Jeannin 1936: 33, 1951: 121. Kingdon 1979: 96. Koenig 1953: 59. Lepiae 1925: 47. Malbrant 1936: 24. Roosevelt & Heller 1915, II: 644. Schenkel & Schenkel 1969d: 762. Schillings 1925: 108. Smith 1940, II: 66 (inability to see ahead). Stigand 1909: 281. Wood 1851: 757.

6.10.21 *Social relations*

Frame 1971: 693. Hall-Martin & Penzhorn 1977: 151-154 (aggression), 156 (reactions to dead animal). Joubert & Eloff 1971: 25-28. Leuthold 1977: 36, 127, 224. Schenkel & Lang 1969: 20-25. Schenkel & Schenkel 1969b: 54-88.

Communication: Goddard 1967b: 141, 143. Schenkel & Schenkel 1969d: 761.

Fights: Attwell 1948: 40. Chadwick 1930: 101. Guggisberg 1966a: 60-66.

Hamilton & King 1969: 81. Somerville 1979: 163. Swara & Hillman 1979: 26-27.

6.10.22 *Speed*

Babault 1949: 9. Crandall 1968: 507. Demmer 1966: 211. Dorst & Dandelot 1970: 168. Eblé 1950. Guggisberg 1966a: 45. Jeannin 1951: 121. Kingdon 1979: 96. Lane 1940: 416. M. Maxwell 1938. Mar. Maxwell 1924: 101. Meinertzhagen 1955: 114. Potter 1947: 385. Schenkel & Lang 1969: 16.

6.10.23 *Territory*

Goddard 1967b: 141. Grzimek 1963: 123. Guggisberg 1966a: 59, 1966c: 45. Hitchins 1971: 13. Hutchinson & Ripley 1954: 179. Joubert & Eloff 1971: 20-22. Owen-Smith 1971b: 294 (absent). Ripley 1958: 173. Schenkel 1966.

6.10.24 *Voice*

Allamand 1781. Baker 1872: 247. Bryden 1899: 38. Chadwick 1930: 95. Dorst & Dandelot 1970: 168. Dubois 1852: 211. Frame 1971: 699. Frame & Goddard 1970. Goddard 1967b: 141, 143. Guggisberg 1966a: 68. Haltenorth et al. 1979: 104. Jeannin 1936: 34, 1951: 121. Kingdon 1979: 97. Neumann 1898: 123. Rapsch 1964. Ritchie 1963: 57, 59. Roosevelt & Heller 1915, II: 645. Selous n. d.: 188. van de Werken 1968: 211. Wilhelm 1950: 13.

6.10.25 *Wallowing and bathing*

Alexander 1838, I: 299. Barrington 1803: 259. Child 1968: 52 (swimming). Condy 1964: 31 (swimming). Frame 1971: 694. Grzimek 1963: 121 (swimming). Guggisberg 1966a: 57. Hall-Martin & Penzhorn 1977: 156 (swimming). von Heuglin 1877, II: 93. Joubert & Eloff 1971: 31. Kingdon 1979: 95. Lyell 1913: 164. Maydon 1932: 115. Roosevelt & Heller 1915, II: 641. Roth 1969: 15-17 (swimming). Schenkel & Lang 1969: 16. Schenkel & Schenkel 1969d: 761. Stigand 1909: 281. Watson 1949: 186. von Wissmann 1901: 45.

6.10.26 *Weapons*

Pitman 1956 (horn). Spinage 1960: 95, 98 (horn, teeth).

6.11 REPRODUCTION

6.11.1 *General studies*

Camper 1782: 171, 174. Dittrich 1965, 1967. Goddard 1966 (field work). Greed 1967. Hall-Martin & Penzhorn 1977: 152-160. Hallstrom 1967. Haltenorth et al. 1979: 105. Jarvis 1967. Jones 1979: 242-243 (review on breeding in zoos). Klös & Frese 1981b: 12-17 (statistics). Krishne Gowda 1967. Leakey & Leakey 1953: 50 (monogamy). Yamamoto 1967.

6.11.2 *Age at sexual maturity*

Crandall 1968: 513. Frädriich & Frädriich 1973: 190. Frame 1971: 699. Goddard 1967b: 146, 1970a. Kingdon 1979: 103. Klös & Frädriich 1970: 232. Klös & Frese 1981b: 19. Mentis 1972: 8. Reuther 1972. Ritchie 1963: 55. Roth & Child 1968: 222. Schenkel & Schenkel 1969b: 41-43.

6.11.3 *Artificial insemination*

Young 1965b, 1967 (semen collection techniques).

6.11.4 *Birth*

Faust 1958, Grzimek 1963: 187, Kingdon 1979: 102, Mentis 1972: 8, Schenkel & Lang 1969: 49.

6.11.5 *Calving interval*

Chadwick 1930: 107, Frame 1971: 699, Goddard 1967b: 146, Guggisberg 1966c: 40, Klös & Frese 1978, Mentis 1972: 8, Poles 1956: 249, Potter 1949: 128, Ritchie 1963: 55, Schenkel & Schenkel 1969b: 41, Stockley 1950: 89, van de Werken 1968: 209, Western & Sindiyo 1972: 51.

6.11.6 *Courtship and copulation*

Attwell 1948: 40, Dorst & Dandelot 1970: 168, Faust 1958, Frädrieh & Frädrieh 1973: 190, Frame 1971: 699, Fraser 1968: 102, Goddard 1967b: 147, Guggisberg 1966a: 60-66 (fights in courtship), 1966c: 42-45, Hays 1967, Hediger 1955, Joubert & Eloff 1971: 42, Kingdon 1979: 101, Leakey & Leakey 1953: 50, Leuthold 1977: 149, 152, Ritchie 1963: 57, Roth & Child 1968: 222, Schenkel & Lang 1969: 26, 49, Schenkel & Schenkel 1969b: 88-91, Seki 1966, Stockley 1948: 27, van de Werken 1968: 206, Wilhelm 1933: 55, 1950: 13.

6.11.7 *Gestation*

Asdell 1964: 535, Burton 1962: 209, Crandall 1968: 512, Frädrieh & Frädrieh 1973: 190, Frame 1971: 699, Goddard 1967b: 146, 1970a, 1973: 60, Gouveia 1969, Guggisberg 1966a: 67, Hays 1967, Jeannin 1936: 34, Joubert & Eloff 1971: 40, Malbrant 1936: 24, Mentis 1972: 7, Miller 1967, Potter 1949: 128, Reuther 1972, Ritchie 1963: 55, Rookmaaker 1973b, Schenkel & Lang 1969: 26, 49, Schinz 1824: 6, Seki 1966, Stevenson-Hamilton 1955: 47, Stockley 1948: 27, 1950: 89, Watson 1949: 187, Western & Sindiyo 1972: 51, Wilhelm 1933: 55, 1950: 13.

6.11.8 *Handrearing*

Anon. 1965b, Kearney & Vyvyan 1965, Kreag 1966: 87, Sheldrick 1967.

6.11.9 *Mating season*

Ansell 1960a: 53, 1960b: 254, Asdell 1964: 535, Attwell 1948: 40, Bourquin et al. 1971: 34, Burton 1962: 209, Frame 1980: 160, Jeannin 1936: 34, Kingdon 1979: 101, Kirby 1899: 337, Kirby in Bryden 1899: 39, Klös & Frese 1978, 1981b: 14, Malbrant 1936: 24, Ripley 1958: 173, Roosevelt & Heller 1915, II: 641, Schulz 1961: 57, Stockley 1950: 89, Wilhelm 1933: 55.

6.11.10 *Milk composition*

Greed 1961, Gregory et al. 1965, Grzimek 1959, 1960b, Nelson 1978: 765.

6.11.11 *Mother's behaviour to child*

Baker 1890: 105, Chadwick 1930, Fitzsimons 1920: 217, Goddard 1973: 58, Guggisberg 1966a: 67-68, Joubert & Eloff 1971: 26, Kamei 1970, Kingdon 1979: 102, Miller 1967, Poles 1956: 249, Potter 1949: 128, Schenkel & Lang 1969: 27-29, Schenkel & Schenkel 1969b: 91-95, 1969d: 761.

6.12 PARASITES

6.12.1 *Review*

Ezzat 1945: 12, 75-104 (nematodes 13 species; *Habronema khalili* n. sp.).

Guggisberg 1966a: 73 (list of ticks). Joubert & Eloff 1971: 49. Kingdon 1979: 103. Lang 1976: 166-167 (zoo animals). Schenkel & Schenkel 1969b: 28-30 (endo-and ectoparasites). Silberman & Fulton 1979: 9 (zoo animals). Wilhelm 1933: 55, 1950: 14. Zumpt 1964, 1965.

6.12.2 Records

Bänziger 1975 (*Calpe eustrigata*—Lepidoptera, Noctuidae, in zoo Kuala Lumpur). Baker & Keep 1970: 41 (Zululand, ticks). Brocklesby 1967 (*Babesia*, 2 species). Brocklesby & Vidler 1965: 121 (*Babesia*, *Theileria*, *Trypanosoma*). Buisson 1923: 210, 212, 214, 216, 217, 243 (Ethiopia, infusorians in intestines). Cerný 1958 (*Amblyomma gemma* and *A. marmoreum*). Clausen & Ashford 1980 (bacterial infections, pathogenic *Streptococcus* and *Staphylococcus*). Cobbold 1879: 401 (*Gastrophilus rhinocerotis*). Dekeyser 1955: 317 (*Oxyuris karamoja*). Fitzsimmons 1962 (*Parabronema roundi*, intestine or stomach). Glover & Sheldrick 1964: 36 (*Microfilaria*). Griffith 1939: 1408 (bovine bacille responsible for tuberculosis, species not mentioned). Keep 1970: 54 (*Babesia* in blood). Keep & Basson 1973 (nematodes, cestodes, dipterous larvae). Khalil 1927 (*Parabronema rhinocerotis* from intestine). Lyell 1913: 164 (maggots in flesh). Neitz 1965: 313 (*Oxyuris equi*, *Nematelminthes*). Neumann 1899: 214, 263 (*Amblyomma crenatum*, *A. subluteum*), 1901: 297 (*Amblyomma crenatum*). Neveu-Lemaire 1924a (*Strongylinae* species in stomach), 1924b (*Khalilia rhinocerotis*), 1925a (*Quilonia parva*), 1925b (*Pteridopharynx omoensis*). Parsons & Sheldrick 1964 (biting flies *Lyperosia* sp., *Rhinomusca* sp. Kenya). Peters 1856 (*Taenia gigantea*, intestines, Mozambique), 1871 (*Taenia gigantea*). Rodhain & Bequaert 1918: 444 (*Gyrostigma conjungens*, *G. meruensis*, *G. pavesii*). Roosevelt & Heller 1915, II: 643 (biting flies, ticks). Round 1962 (*Strongylus* (*Dicerocola*) *tremletti*, colon), 1964 (*Stephanofilaria dinniki*). Sachs & Sachs 1968: 466 (nematode eggs in faeces). Schillings 1925: 109 (*Amblyomma*, *Dermacator*). Schulze 1919: 191 (*Hyalomma*). Teuscher & Stünzi 1956: 266 (*Strongylids* in dung). Thapar 1924 (6 new species of *Kiluluma-Strongylidae*, nematodes), 1925 (4 new species of *Kiluluma*). Tremlett 1964 (*Stephanofilaria*). Warnecke & Göltenboth 1977 (*Gyrostigma conjungens* in dung). Zumpt 1962 (*Gyrostigma pavesii*, *G. conjungens*).

6.13 VETERINARY STUDIES

6.13.1 Review

Jones 1979: 246-250. Silberman & Fulton 1979.

6.13.2 Records

Anon. 1891 (cancer in stomach), 1981a (Brookfield zoo, cracks in toenail). Boever 1976 (interdigital corns). Clausen 1981 (trypanomiasis). Deane 1962a (observations on injured rhino). Fiennes 1966: 372 (London zoo, mitral stenosis—bronchitis). Grünberg & Bertscher 1968 (pock-like skin disease and cutaneous mucous membrane). Gush 1964 (snare wound). Harthoorn 1966 (chronic endocarditis). Hungerford et al. 1967: 357 (Philadelphia zoo, pulmonary abscess). Keep & Basson 1973 (lameness due to *Mycobacterium* infection). Klöppel 1956 (Frankfurt zoo, *volvulus jejuni*). Klös & Frädrich 1970: 233 (causes of death in zoo animals). Klös & Frese 1981b: 18 (causes of death in zoo animals). Kolb 1958: 381 (discovery of gravidity). Krag 1966 (uterine prolapse). Lang 1976: 166-171 (review of diseases in zoo animals). McCulloch & Achard 1969 (causes of death). McCulloch et al. 1969:

141 (disease symptoms). Mayr & Mahnel 1970 (chickenpox virus). Muger & Wandera 1967 (polymyopathy). Nelson 1978: 766 (zoo animals). Pearson et al. 1967 (rectal prolapse). Pocock 1912 (broncho-pneumonia). Schenkel & Schenkel 1969b: 26 (diseases during drought). Shepstone 1931: 36 (New York zoo, abscess left jaw). Takagi et al. 1964 (tuberculosis). de Vos 1980 (possible botulism). de Vos & Braack 1980 (castration). van de Werken 1966b: 27 (eye disease). Windsor & Ashford 1972 (liver infected by *Salmonella typhimurium*). Zeller 1963 (Cologne zoo, tuberculosis). Zukowsky 1965: 157 (rachitis).

6.13.3 Sores on body

Attwell 1948: 37 (function). Clausen & Ashford 1980. Glover & Sheldrick 1964: 36. Guggisberg 1966a: 73. Hitchins & Keep 1970. Lang 1976: 166. Potter 1947: 385 (due to sexual activity). Ritchie 1963: 60 (rubbing). Schenkel & Schenkel 1969b: 27 (biting flies). Schulz 1961. Schulz & Kluge 1960 (filarids). Spinage 1960: 100. Stigand 1909: 282 (friction with vegetation and ticks). Stockley 1948: 27, 1950: 89. Tremlett 1964. Willoughby 1889: 128. Wilson & Edwards 1965: 179 (on throat). Young 1966 (treatment of granulomata). Zukowsky 1966.

6.14 IMMOBILISATION AND TRANSLOCATION

Anon. 1970g (anaesthesia), 1971a (drugs, methods). Brooks 1967: 17 (capture). Carter 1965. Condy 1964 (reactions to drugs, capture), 1966 (drugs). Ebedes 1966, 1967 (drugs, techniques). Haigh 1977 (drugs, methods, results). Hall-Martin & Penzhorn 1977 (behaviour). Harthoorn 1961: 305 (drugs, effects), 1965: 58-65 (drugs, methods), 1966 (drugs), 1968: 219 (drugs, techniques), 1976: 195, 200-202 (drugs, techniques). Hitchins et al. 1972 (drugs, methods). Hofmeyr & de Bruine 1973 (methods). Hofmeyr et al. 1975 (capture, techniques, immobilisation). Jones 1966 (drugs, techniques). D. Jones 1979: 244-245 (restraint in zoos). Keep et al. 1969 (reactions to drugs). King 1969 (drugs, techniques). King & Carter 1965 (effects of drugs). Lang 1976: 165 (drugs in zoos). McCulloch & Achard 1969 (drugs, management, mortality). Nelson 1978: 765 (restraint in zoos). Pearson et al. 1967 (immobilisation of 4 months old calf). Roth 1965 (methods).

6.15 MUSEUM SPECIMENS

General: Ansell 1978: 50. Best & Raw 1975: 489-492 (former and present owners of record horns). Rookmaaker & Groves 1978: 118 (specimens of *D.b. bicornis*).

Zukowsky 1965: tables between pp. 152-153 and *passim* (examined specimens).

Albany, Museum: Shortridge 1934: 415.

Berlin, Zoologisches Museum: Brauer 1910: 389 (embryo, Tanzania).

Calcutta, Asiatic Society: Blyth 1863b: 138 (anterior horns).

Calcutta, Indian museum: W. Slater 1891: 205 (horns).

Cape Town, South African museum: Layard 1861: 61 (head).

Cracow, Polish Academy of Sciences: Kubiak & Dziurdzik 1973: 56 (mounted head).

Exeter, Royal Albert Memorial museum: Howes & Bamber 1970: 327.

Frankfurt a.M., Senckenberg museum: Schwarz 1920: 867 (5 specimens from Adolf Herzog zu Mecklenburg).

Groningen, University: A. Camper 1809: 80, 1811: 19 (museum Petrus Camper, nos. 64-66). Vrolik 1830 (1 skull).

Haarlem, Hollandsche Maatschappij van wetenschappen: van Marum 1803: xi (horns).

- Hamburg*, Zoologisches Museum: Noack 1891: 79 (horns).
Johannesburg, Africana Museum: Andersson 1946 (mounted horn cup).
Kaffraria, Museum: Shortridge 1934: 415.
Leeds, Natural History museum: Falconer 1868, II: 403 (skull).
Leiden, Rijksmuseum van Natuurlijke Historie: Jentink 1887: 167-168, 1892: 197, Loose 1975: 36, Vrolik 1830 (1 skeleton, 3 skulls).
Leiden, W. Vrolik: Dusseau 1865: 174 (skeleton from Cape). *Amsterdam*
London, British Museum (Natural History): Dollman 1921: 82, Gray 1843: 186, 1862: 282, 1868: 1025, Loose 1975: 36, Roosevelt & Heller 1915, II: 656, Setzer 1956: 570 (2 D.b. somaliensis), de Winton 1899 (from Nyasaland).
London, East India Co. museum: Horsfield 1851: 196 (anterior horn).
London, Royal College of Surgeons: Flower & Garson 1884 (nos. 2147-2153). Gray 1868: 1025.
Lüderitz museum: Heinz 1933 (excavated skull).
Milano, Natural History museum: de Beaux 1923: 287 (4 skulls, 1 foetus from Somalia, collected Zammarano 1916-22).
Oxford, University Museum: Cave 1947: 146 (specimens collected by Burchell).
Paris, Muséum National d'Histoire Naturelle: Cuvier 1822: 4, 1836b, pl. 54, Desmarest 1822 (skeleton from Cape collected Delalande, 1821), Kyou-Jouffroy 1971: 272 (skeleton).
Swakopmund, Museum: Sauer 1972 (horn from Namibia).
Uppsala, Royal Academy of Sciences: Sparrman 1977, II: 83 (horns).
Vienna, Zoologisches Museum: Toldt 1914: 268 (foetus).
Washington, United States National museum: Hollister 1924: 135 (33 skulls E. Africa, 7 skulls Kenya), Roosevelt & Heller 1915, II: 656, True 1893: 479.

6.16 EXHIBITION IN CAPTIVITY

6.16.1 Review

Klös & Frädrich 1970 (studbook 31.12.1968), 1971 (studbook 1.11.1971), Klös & Frese 1977 (studbook 31.12.1976), 1978 (studbook, statistics), 1981b (studbook 31.12.1980, statistics), Kourist 1973, Reuther 1972 (list of births 1941-1971), Reynolds 1963a (retrospective list of all specimens; list of births on p. 102), Rookmaaker 1973b (list of births 1941-1972), Census of rare animals, International Zoo Yearbook 6: 446, 7: 372, 8: 367, 9: 291, 10: 323, 11: 334, 12: 392, 13: 372, 14: 422, 15: 422, 16: 438, 17: 364, 18: 435, 19: 415, 20: 477, 21: 361, Species of wild animals bred in captivity, International Zoo Yearbook 9: 233, 10: 268, 11: 279, 12: 333, 13: 336, 14: 385, 15: 380, 16: 399, 17: 322, 18: 392, 19: 370, 20: 438, 21: 325.

6.16.2 American circuses

Flint 1970: 7 (Boston Zoological Institute, 1835, expecting two-horned rhino), Murray 1956 (Bailey, Australian tour 1876), Reynolds 1963a: 100, 1967a: 290 (Ringling Bros., 1894), 1968a (review), 1976 (Ringling-Barnum, different specimens), 1982 (Ringling Bros. & Barnum & Bailey, 1929-35, 1931-33, 1934-35, 1945-53), Thétard 1947: 185 (Barnum).

6.16.3 European travelling menageries

Brick 1960: 127 (Novacek and Richter, tour through Egypt and Far East, species unidentified), Gleiss 1967: 42, 241 (Breslau, from Nubian caravan, 1878), Heck 1896: 1021 (Hagenbeck's Nubian caravan in Berlin), Schneider 1930: 23 (Christoph

Schulz, import 1929). Zukowsky 1954: 10 (Schulz, imported 3 rhinos).

6.16.4 Zoological gardens

Amsterdam: Jacobi 1959 (arr. 1937, 1948). Portielje 1940: 43 (arr. 1937). Zukowsky 1965, fig. 24.

Antwerp: Gijzen 1960: 16 (arr. 1858). Kourist 1973: 137 (arr. 1858?).

Atlanta: Reynolds 1968b (arr. 1967).

Bangkok: Gorgas 1970: 103 (one present).

Berlin East: Petzold 1961: 70 (arr. 1956), 1965: 68 (arr. 1961). Zukowsky 1965: 106 (arr. 1958 pair).

Berlin West: Anon. 1872: 319. Anon. 1931: 35 (one Sept. 1930). Flower 1908: 16 (2 present). Gaebler 1883b: 243 (one present). Heck 1930: 71-76 (arr. 1929). Klös 1961a: 129 (arr. 1957), 1969a: 78 (in 1878). Knauer 1914: 130 (one present). Knottnerus-Meyer 1905: 109 (arr. 1905). Kourist 1973: 137 (in 1870). Noll 1873: 141 (arr. 1870), 1876: 336 (one present). Schlawe 1969: 28 (1870-1887, 1878). Schlater 1872c: 428 (ca. 1870). Steinmetz 1940: 342 (arr. 1940), 1942: 283 (died 1941). Zukowsky 1965: 1, 106, 130, 139, 109 (1870-1884, 1903-1908, 1907-1917, 1928-1943, arr. 1960).

Breslau: Gleiss 1967: 42, 241 (1888-1892, arr. 1907, 1932). Kourist 1973: 137, 139 (arr. 1888).

Bristol: Anon. 1964b (birth 1964). Aschaffenburg et al. 1961 (birth 1958). Greed 1967 (births 1958, 1961, 1964, arr. 1962). Gregory et al. 1965 (birth 1961). Pearson et al. 1967 (birth 1964).

Chester: Anon. 1970c, 1971b (birth 1971), 1973c (birth 1973).

Chicago Brookfield: Anon. 1981a. Bean 1941 (birth 1941). Hediger 1955 (birth 1941). R. 1958 (birth 1941). Reynolds 1982 (birth 1944).

Cincinnati: Maruska 1964 (arr. 1960, 1961, 1964). Reynolds 1961e (birth 1961).

Cologne: Kohle 1981: 105 (arr. 1908). Zeller 1963 (died 1957).

Colombo: Schmidt 1970: 121 (birth 1968).

Denver: Freiheit 1971 (birth 1971).

Detroit: Anon. 1965b (arr. 1957, birth 1964). Kreag 1966 (birth 1964).

Dresden: Anon. 1929: 450 (arr. 1928), 1930b: 353 (arr. 1928). Sailer 1941: 15 (one present). Zukowsky 1965: 157, fig. 78 (1920's, 2 in 1927).

Dublin: Anon. 1969b (birth 1969). van Bommel 1962 (arr. 1962), 1963b (2 present).

Dvur Kralove: Vagner 1980.

Frankfurt am Main: de Beaux 1912: 565 (arr. 1909). bs. 1970 (birth 1969). Faust 1958 (arr. 1950, 1952, birth 1956), 1964a (birth 1956 to La Plata 1959), 1964b (birth 1958). Klöppel 1956 (died 1952). Priemel 1930: 352 (arr. 1927). R. 1958 (birth 1956). Zukowsky 1965: 130 (arr. 1960).

Fresno: Reynolds 1964a (arr. 1963).

Hamburg: Kourist 1969b: 10 (arr. 1881), 1973: 137 (arr. 1881). Sigel 1881: 361 (one deposited).

Hamburg (Hagenbeck): de Beaux 1912: 561 (2 arr. 1910/11). Hagenbeck 1928: 35, 41, 81, 150 (arr. 1871). Mitchell 1911c, d (pair present). Noack 1889: 107 (present 1887). Schulz 1921: 23, 25 (sent ca. 1918/19). Zukowsky 1954: 14 (present 1913, arr. 1922), 1965: 55, 81, 83, 96, fig. 39 (arr. 1914/16, 1920's, 3 arr. 1931, arr. 1929, present 1907).

Hanover: Anon. 1968h (birth 1968). Ditttrich 1965 (birth 1965), 1967 (birth 1965), 1972 (birth 1970). Eiffert 1957: 257 (3 arr. 1954).

Jacksonville: Reynolds 1961f (arr. 1961).

- Kansas City*: Reynolds 1967b (arr. 1967).
- Kobe*: Kamei 1970 (birth 1969). Yamamoto 1967 (births 1963, 1965).
- Kuala Lumpur*: Bänziger 1975.
- Leipzig*: Schneider 1930: 23 (shown 1929).
- Lisbon*: Brouard 1978 (one in 1977). Florio 1973: 211 (showing pair and young). Gouveia 1969 (birth 1969). Zukowsky 1965: 68-69, figs. 29, 30, 32, 33 (no dates).
- London*: Anon. 1872: 319 (one present), 1891 (died 1891). Beddard & Murie 1891 (1868-1891). Brightwell 1948: 31. Fiennes 1966: 372 (died 1964). Flower 1908: 27, 1931: 203 (1868-1891, 1911-1924). Hindle 1947b: 794 (arr. 1947). Kourist 1973: 137 (arr. 1868). Loisel 1907: 16 (one present). Mitchell 1906 (arr. 1906), 1911b (arr. 1911), 1923: 175 (arr. 1922), 1928: 1036 (arr. 1928). Noll 1873: 141 (arr. 1868). Pocock 1912 (1906-1912), 1928a (arr. 1928). Reynolds 1963a: 99 (1868-1891). Scherren 1905: 140, 215 (arr. 1868, 1879). Slater 1868 (arr. 1868), 1870 (arr. 1868), 1872c: 428 (arr. 1868), 1876a: 655 (arr. 1868). Zukowsky 1965: 136-138, fig. 67 (1868-1891).
- Memphis*: Reynolds 1965a (arr. 1958, 1964), 1976 (1958-1966).
- Moscow*: Anon. 1970c (arr. 1970).
- Mysore*: Krishne Gowda 1967 (birth 1966). Miller 1967 (birth 1966).
- Naples*: Florio 1976 (birth 1975).
- New York*: Lang 1920: 86 (arr. 1907). Shepstone 1931: 36. Zukowsky 1965: 84 (1932-1941).
- Oklahoma City*: Anon. 1968b (birth 1968). Reynolds 1964a (arr. 1963).
- Osaka*: Takagi et al. 1964: 125 (1955-1961).
- Paris*: P. Slater 1891: 327.
- Peking*: Jarvis 1966: 454 (2 present).
- Pittsburgh*: Hays 1967 (births 1963, 1965). Reynolds 1961d (birth 1960), 1963b (birth 1963), 1964a (birth 1963), 1965b (birth 1965).
- Pretoria*: Bigalke 1946: 325 (1914-1942). Haagner 1920: 127. Zukowsky 1965: 60 (arr. 1958).
- Rio de Janeiro*: Hediger 1955 (birth 1954). R. 1958 (birth).
- Rome*: Zukowsky 1965: 96-97, fig. 47 (1910-1915).
- Rotterdam*: van Bommel 1960 (birth 1960), 1962 (departure 1960). Coomans de Ruiter 1957 (arr. 1940). Kuiper & Schneider 1940 (one present).
- Saane Island, Tanzania*: Achard & McCulloch 1967. McCulloch et al. 1969: 141 (arr. 1964).
- San Diego*: Anon. 1952 (arr. 1952), 1953a, b, c, 1958a, 1976c (birth 1976). Bode 1952 (arr. 1952). Dolan & Moran 1969: 61 (arr. 1952). Glenn 1954. Pournelle 1969 (arr. 1969).
- San Francisco*: Reuther 1972 (birth 1972).
- Sydney*: Hallstrom 1967 (births).
- Tokyo*: Nishiyama 1961, 1964 (one died). Seki 1966 (birth). Sotani 1974.
- Vienna*: Antonius 1931: 260 (arr. 1931). Grünberg & Bartscher 1968: 649 (1942-1967).
- Washington*: McCrane 1967 (arr. 1967). Reed 1968: 403 (birth 1967), 1969: 264 (birth 1967). Reynolds 1967b (arr. 1967).
- Whipsnade*: Anon. 1970e.
- Zagreb*: Klimek 1971 (birth 1970).

CHAPTER 7

THE SUMATRAN RHINOCEROS, *DICERORHINUS SUMATRENSIS*

7.1 REVIEW

Borner 1979a. Groves & Kurt 1972. Hubback 1939a, b. van Strien 1974a. Talbot 1960.

7.2 TAXONOMY AND NOMENCLATURE

7.2.1 *Revisions*

Gray 1872, 1873a, b (*Ceratorhinus sumatranus* of Sumatra identical with *C. lasiotis* of Chittagong; Malayan form is distinct and known as *C. crossii* in 1872 and *C. niger* in 1873; *C. blythii* in Tenasserim). Groves 1965 (*D.s. sumatrensis*: Sumatra; *D.s. niger*: Malaya; *D.s. lasiotis*: Tenasserim and northwards; *D.s. harrissoni*: Borneo), 1967a: 230 (*D.s. sumatrensis*: Sumatra, Malaya; *D.s. harrissoni*: Borneo; *D.s. lasiotis*: Burma, India). Groves & Kurt 1972 (as Groves 1967a). Harper 1945: 390-395 (*D.s. sumatrensis*: Sumatra, Borneo; *D.s. niger*: Malaya; *D.s. lasiotis*: mainland). Slater 1872a, b, d, g, 1873a (*R. sumatrensis*: Sumatra, Malaya; *R. lasiotis*: Chittagong).

7.2.2 *Remarks*

Ansell 1947: 266 (pigmy rhino in Salween dt., Burma). Bell 1793 (animal found 10 miles from Fort Marlborough, Sumatra - cf. Guggisberg 1966a: 106, Jardine 1836: 177). Flower 1878 (skull from Comilla; uncertain if differences to be considered of specific value). Guérin 1980: 172-174 (differences between subspecies). Hubback 1939a: 596 (review). Prater 1939: 618-620 (review). van Strien 1974a: 6-8 (review).

7.2.3 *Subspecies and synonyms of Dicerorhinus sumatrensis*

Ceratorhinus blythii Gray, 1873a: 360, proposed provisionally.

Type-specimen: Young skulls figured by Blyth 1862a, pl. 3 figs. 2, 3 (not fig. 1 which is '*R. crossii*') after specimens in the Museum of the Asiatic Society of Bengal, Calcutta.

Type-locality: Tenasserim.

Remarks: Chasen 1940 (name *blythii* available for Malayan form if it is distinct).

Dollman 1928: 257 (in Malaya, Tenasserim).

Taxon considered valid:

Ceratorhinus blythii Gray 1873a.

Rhinoceros (Dicerorhinus) sumatrensis blythii; Lydekker 1916.

Rhinoceros borneiensis Hose & McDougall, (1912) 1966: 3.

Type-specimen: not designated.

Type-locality: Borneo.

Remark: Rookmaaker 1977c: 54 (nomen nudum because there is no description or picture).

Taxon considered valid:

Rhinoceros borneiensis Hose & McDougall (1912) 1966.

Rhinoceros crossii Gray, 1854.

Type-specimen: British Museum (Natural History), no. 1854.12.8.1, anterior horn of 3'5" along the curve length, from collection of Mr. Cross (figured by Groves 1971, fig. 16).

Type-locality: unknown.

Remarks: Blyth 1861 (*R. crossii* synonymous with *R. sumatranus* as similar horns belonging to that species were observed), 1862a: 156 (*R. crossii* has a near affinity to *R. sumatranus*), 1863a: 156 (*R. crossii* referable to *R. sumatrensis*), 1872a: 400 (*R. crossii* is *R. lasiotis*), 1875: 51 (*R. crossii* used as synonym of *R. lasiotis* living in Chittagong, Burma and Assam). Brandt 1878a: 44 (*R. crossii* is *R. sumatrensis*, not *R. lasiotis*). Fytche 1878: 103 (*R. crossii* and *R. sumatrensis* in Burma). Gray 1868: 1022 (*R. crossii* referred to *R. sumatranus*, cf. Blyth), 1873a: 359 (*R. crossii* may be identical to the Tenasserim or Malaya or Sumatra form of *R. sumatranus*). Scater 1862 (*R. crossii* is *R. sumatrensis*, cf. Blyth).

Taxon considered valid:

Ceratorhinus crossii; Gray 1872, 1873a. - Blyth 1875.

Rhinoceros crossii Gray 1854. - Gray 1862.

Didermoceros sumatrensis harrissoni Groves, 1965: 128.

Type-specimen: British Museum (Natural History), no. 1901.8.15.1, almost adult female skull.

Type-locality: Swan-Lambah, Sabah, Borneo.

Remarks: Blyth 1875: 53 (in Borneo there would appear to be a still smaller species). Flower 1876 (skull from Borneo identified as *R. sumatrensis*). Harrison 1965b: xix (early reaction).

Taxon considered valid:

Dicerorhinus sumatrensis harrissoni; Groves 1967a. - Groves & Kurt 1972. Guérin 1980. Harrison 1975. Rookmaaker 1977 c, d. van Strien 1974a.

Didermoceros sumatrensis harrissoni Groves 1965. - Harrison 1965b. Medway 1965a, 1977.

Rhinoceros lasiotis Buckland, 1872.

Type-specimen: Animal captured in Chittagong in 1867 (Hood 1869, Manson 1876), lived in the London zoo 14 Feb. 1872-31 August 1900, kept in British Museum (Natural History).

Type-locality: Sungoo river, Chittagong (Bangladesh).

Authorship: The name was often attributed to P.L. Scater. Scater was responsible for the name and the reasons of distinction, but Buckland (1872) published his note as early as 10 August 1872 stating that *R. lasiotis* 'has been named by Dr. Scater' (see Harper 1940: 201). Scater distinguished the species after comparing the type-specimen and a rhino from Malacca deposited in the London zoo by William Jamrach in July 1872 and purchased by the Society on 2 August 1872 (Scater 1872e, f, g). He proposed to call the Chittagong animal *R. lasiotis* 'in a paper read before section D at the British Association's meeting at Brighton on the 16th of August' (Scater 1872a), or 6 days after the appearance of Buckland's

- note. The proceedings of the Brighton meeting were reported first in the *Times* (19 August 1872, p.5 – not seen) and the *Athenaeum* of 24 August 1872 (Sclater 1872b) and later more officially (Sclater 1872h, 1873a).
- Remarks: Blanford 1891 (variety only). Brandt 1878a: 44 (in India). Chasen 1940 (in Chittagong). Heck 1896: 1020 ('Spielart'). Hooijer 1946a: 27-29 (no right of distinction from *D. sumatrensis*). Krumbiegel 1960 (on mainland). Lydekker 1881:56, 1892a, 1893: 382 (mere variety). Neuville 1927: 182 ('race locale'). Sclater 1876a: 652-654 (differences from *R. sumatrensis*). Sody 1946 (*R. lasiotis* distinct, against Hooijer 1946a).
- Taxon considered valid:
- Ceratorhinus lasiotis*; Gray 1873b. – Brandt 1878a, b,c, 1879. Flower 1876. Garrod 1873.
- Dicerorhinus lasiotus*; Sody 1946.
- Dicerorhinus sumatraensis lasiotis*; Krumbiegel 1960.
- Dicerorhinus sumatrensis lasiotis*; Harper 1940. – Brentjes 1978. Chasen 1940. Groves 1967a. Groves & Kurt 1972. Guérin 1980. Guggisberg 1966a. Harper 1945, van Strien 1974a.
- Didermoceros sumatraensis lasiotis*; Reynolds 1961a.
- Didermoceros sumatraensis lasiotus*; Maliepaard & de Vos 1961.
- Didermoceros sumatrensis lasiotis*; Grassé 1955. – Crandall 1968. Deuve & Deuve 1964. Groves 1965. Kourist 1973. Prater 1965. Ulmer 1958.
- Rhinoceros lasiotis* Buckland 1872. – Anderson 1883. Baker 1887. Blyth 1872a. Brehm 1877. Duncan 1892. Evans 1912. S. Flower 1908. W. Flower 1878. Friedel 1872b. Heck 1896. Lydekker 1881, 1883, 1893. Mason 1882. Neuville 1927. Newman 1872c, 1874. Noack 1886. Noll 1873. Sanyal 1892. Sclater 1872a, b, d, f, g, h, 1873a, 1876a, 1877, 1884, 1886b. W. Sclater 1891. Vogt 1884.
- Rhinoceros sumatranus lasiotis*; Hose 1893.
- Rhinoceros sumatrensis lasiotis*; Trouessart 1898. – Delacour 1940. Lydekker 1900, 1907a, 1925. Thomas 1901.
- Rhinoceros* (*Ceratorhinus*) *lasiotis*; Zittel 1891.
- Rhinoceros* (*Dicerorhinus*) *sumatrensis lasiotis*; Lydekker 1916. Gijzen 1960. Wroughton 1921.
- Rhinoceros vel Ceratorhinus (crossii?) lasiotis*; Sterndale 1884.

Rhinoceros malayanus Newman, 1874. Published without description. Newman mentioned 2 Asiatic species: *R. lasiotis* and *R. malayanus*, the latter possibly an error for *R. niger* Gray, 1873.

Ceratorhinus niger Gray, 1873a: 357, pl. 11.

Type-specimen: British Museum (Natural History), no. 1872.12.31.1, complete specimen received from the Zoological Society of London where it lived 2 August 1872–21 September 1872. It was obtained by W. Jamrach in Singapore but caught in Malaya in 1871. Its anatomy was described by Garrod (1873).

Type-locality: 'Malacca' (Gray 1873a), from Sunghijong dt. (Sclater 1876a), i.e. Sungei Ujong dt, Malaya, presently in western Negri Sembilan around Seremban.

Taxon considered valid:

Ceratorhinus niger Gray 1873a. – Gray 1873b.

Dicerorhinus sumatrensis niger; Harper 1945.

Didermoceros sumatrensis niger; Talbot 1960. – Groves 1965. Medway 1969.

Rhinoceros sumatrensis niger; Lydekker 1907a.

Rhinoceros bicornis var. *sinensis* Laufer, 1914: 159. Introduced for the double-horned rhinoceros living in China (si).

Remark: Rookmaaker 1980b: 260 (a nomen nudum and preoccupied by *Rhinoceros sinensis* Owen, 1870).

Rhinoceros sumatranus Raffles, 1822: 268.

Type-specimen: not designated.

Type-locality: Sumatra.

Taxon considered valid:

Rhinoceros sumatranus Raffles 1822. – Banks 1935, 1978. de Blainville 1846. Blyth 1847a, 1861, 1862a, 1863a, b, 1872b. Boitard 1842. Brehm 1877. Cantor 1846. Carter et al. 1946. Gray 1862, 1868, 1869b, 1873a. Hagen 1881. Harrison 1948. Hose 1893. Hose & McDougall 1966. Jardine 1836. Lesson 1838. Manson 1876. von Martens 1876. Mohnike 1883. Müller & Schlegel 1845. Murray 1866. Newman 1872a, c. Noack 1886. Oken 1838. Owen 1845. Pfeffer 1958. Pöppig 1851. von Rosenberg 1878. Schinz 1845. Schlegel 1857, 1872. von Schreber 1835. Slater 1862. Snelleman 1887. Tate 1947. Vogt 1884. Waterhouse 1838.

Rhinoceros (Ceratorhinus) sumatranus; Banks 1931.

Rhinoceros sumatrensis G. Fischer, 1814: 301, with reference to Bell (1793) and Cuvier (1806).

Type-specimen: not designated.

Type-locality: Sumatra.

Remarks: Brandt 1878a: 42 (in Pegu, Siam, Malaya, Sumatra, Borneo). Cuvier 1812b, 1st pl.; 1836b, pl. 42 fig. 8 (skull copied from Bell). Dollman 1928: 257 (in Sumatra). Krumbiegel 1960 (in Sumatra, Borneo).

Taxon considered valid:

Ceratorhinus sumatrensis; Gray 1873b. – Blyth 1875. Brandt 1878a, b, c, 1879. Breuning 1924. Flower 1876, 1891. Forbes 1881. Garrod 1873, 1879. Hagen 1890. Jentink 1887, 1892, 1897. Patte 1934. Volz 1912.

Ceratorhinus sumatrensis; Jentink 1889.

Dicerorhinus sumatrensis; Gloger 1841. – Ansell 1947. Antonius 1937. Asdell 1964. Borner 1979a. Cave 1959. Chakraborty 1972. Chasen 1940. Christison 1945. Flynn 1978. Groves 1971. Grzimek 1958, 1960a. Guérin 1980. Guérin & Mourer 1969. Hislop 1968. Hoogerwerf 1954. Hooijer 1945, 1946a, b, 1948, 1962a. Hubback 1939a, b. Hutchinson & Ripley 1954. Lang 1976. H. Lang 1924c. Laurie 1982. Lekagul & McNeely 1977. Loose 1975. McNeely & Laurie 1977. Meinertz 1974, 1975. van Peenen 1969. Prater 1939. Rookmaaker 1973c, 1977c, d, 1980b. Schaurte 1968. Schenkel 1971. Schenkel & Schenkel 1972a. Schneider 1906. Shebbeare 1953. Silberman & Fulton 1979. Skafte 1961. Sody 1937, 1941, 1946. Sonne-Hansen 1972. van Strien 1974a, 1976a, 1977a, 1978a. Thenius 1972. Thomas 1901. Tun Yin 1954a, b, 1955a. Ullrich 1955. Weatherbe 1939. Zeuner 1934. van der Zon 1977.

Dicerorhinus sumatrensis sumatrensis; Harper 1945. – Brentjes 1978. Groves 1967a. Groves & Kurt 1972. Guérin 1980. Guggisberg 1966a. van Strien 1974a.

Diceros sumatrensis; Neese 1976a.

Didermoceros sumatrensis; Pocock 1944b. – Ali & Santapau 1959. Basjarudin

1967. Brookes 1828. Bruton 1963. Cave 1958b, 1962a, 1964b, 1965, 1969, 1973, 1974a, b, 1975, 1976a, c, 1979a, 1981, 1982. Cave & Aumonier 1962b, 1963a, b, 1966. Cave & Wingstrand 1972. Crandall 1968. Davis 1962. Deuve & Deuve 1962. Ellerman & Morrison-Scott 1951. Fetherstonhaugh 1951. Harrison 1974. Harrison 1955, 1956, 1965a. Heymans & Colyn 1981. Hislop 1961. Krumbiegel 1965. Llopis 1974b. Lukaszewicz 1962. Medway 1964, 1965b, 1966, 1968a. Miller 1942. Milton 1961. Pocock 1945a, b, 1946c. Reynolds 1971. Schaute 1966. Schenkel et al. 1978. Schlawe 1969. Scott 1975. Street 1961. Talbot 1960. Tun Yin 1967. Walker 1964. Zumpt 1965.
- Didermoceros sumatrensis sumatrensis*; Grassé 1955. - Groves 1965. Kourist 1973. Ulmer 1958.
- Didermoceros (Ceratohinus) sumatrensis*; Cave 1976b.
- Didermoceros sumatrensis*; Metcalfe 1961. - Harrison 1964. Khan 1971. Koffend 1974. Strickland 1967.
- Rhinoceros sumatrensis* Fischer 1814. - Anderson 1872, 1878, 1883. Antonius 1914. Arambourg & Fromaget 1938. van Balen 1914. Banks 1931. Bartlett 1891. Beccari 1904. Beddard 1902. Beddard & Treves 1889. Begbie (1834) 1967. van Bemmelen 1915. Blandford 1891. Blyth 1842, 1847b, 1872a, Boettger 1905. Bolau 1879. Buckland 1872. Burgess 1935, 1951. Cabrera 1911. Carpenter 1938. Chenu & Desmarest 1858. Chin 1971. Chochod 1950. Comyn-Platt 1937b. Coomans de Ruiter 1948. Cuvier 1816, 1829, 1836a. Dammerman 1929a. Davis 1958. Delacour 1966. Delsman 1951. Desmarest 1822. Dover 1932. Duncan 1892. Duvernoy 1854. Elliot 1907. Evans 1904, 1905. Evans 1912. Fischer 1829. S. Flower 1900, 1908, 1914, 1931. Flower & Lydekker 1891. Foenander 1952. Friedel 1872b. Fromaget & Saurin 1936. Fytche 1878. Gairdner 1915, 1919. Gee 1950b, 1953a. Gervais 1855. Giebel 1851, 1855. Gyldenstolpe 1914, 1919a, b. Hanitsch 1908. Harrison 1949b. Heck 1896. Heynsius-Viruly & van Heurn 1935. Hobley 1932. Inglis et al. 1919. Jentink 1895. Jerdon 1867. Kaup 1833. Kjaersgaard 1974. Kloss 1906, 1909, 1927. Lydekker 1880b, 1883, 1893, 1907a, 1925. Laufer 1914. Lenz 1835. Lesson 1827, 1842. Mason 1882. de Meyere 1894. Milroy 1935. Milton & Estes 1963. Mjöberg 1930. Mukherjee 1974. Neuville 1927. Nicholson & Lydekker 1889. Noll 1873. Osborn 1900. Peacock 1931, 1933. Pollok & Thom 1900. Raffles 1830. Raven 1935. Ridley 1901, 1906. Robinson & Kloss 1918. Sanyal 1892. Sauvaire 1930. Slater 1872a, b, c, g, h, 1873a, 1878, 1885, 1896. W. Slater 1891. Shelford 1916. Shortridge 1915. Smith 1935. Sowerby 1930. Stockley 1928. Suvatti 1950. Swierstra 1888. Thom 1935, 1943. Tjeenk Willink 1905. Trouessart 1898. Tun Yin 1954c. Vageler 1927. Ward 1896. Weber 1904. Westermann 1939. Wood 1930. Wray 1905. Wroughton 1915.
- Rhinoceros (Ceratohinus) sumatrensis*; Toulia 1902.

7.2.4 *Lapsus in names*

- Dicerorhinus lasiotus*, Sody 1946.
- Didermoceros sumatraensis lasiotus*, Maliepaard & de Vos 1961.
- Didarmoceros sumatraensis lasiotus*, Jenyns 1955: 35.
- Rhinoceros sumatransis*, Anon. 1895.
- Rhinoceros sumatranensis*, Collet 1925.
- Dicerorhinus sumatraensis*, Krumbiegel 1960.
- Didermoceros s. sumatraensis*, Maliepaard & de Vos 1961.
- Didermoceros sumatraensis*, Hattenorth & Trense 1956. - Lang 1959. Anderen 1963.

Reynolds 1961a. Turek 1961.

Didermocerus sumatraensis, Schlawe 1961.

Rhinoceros (Ceratorhinus) sumatrense, Bourret 1927.

7.2.5 Lists of synonyms

Ellerman & Morrison-Scott 1951: 340. Groves 1967a: 230. Groves & Kurt 1972: 1. Hooijer 1946a: 12-16. Lydekker 1916: 49.

7.3 NAMES IN VERNACULAR

General: van Strien 1974a: 68.

Borneo: Banks 1931: 19. Harrison 1964: 210.

Burma: Blanford 1891. Evans 1905: 555. Evans 1912: 121. Mason 1882: 453. Peacock 1933: 71. Prater 1965: 232. Reynolds 1954: 105. Smith 1935: 47. Tun Yin 1967: 157 (Burmese, Kachin, Karen, Shan). Wroughton 1915: 718. Wroughton & Davidson 1918: 475 (Karen).

Laos: Deuve & Deuve 1964: 28. Gairdner 1919: 125.

Malaya: Blanford 1891. Errington 1882: 327 (Malay, Sakai). Fetherstonhaugh 1951b: 230. Foenander 1952: 179 (Malay, Chinese, Cantonese, Kheh). Hanitsch 1908: 8. Heynsius-Viraly & van Heurn 1935: 41. Medway 1969: 103. Metcalfe 1961: 185. Müller 1942: 162. Tjeenk Willink 1905: 201.

Thailand: Burkill 1935: 1893. Gairdner 1919: 125. Grose 1914.

7.4 EXTERNAL MORPHOLOGY

7.4.1 Appearance

Anderson 1872, 1883: 76. Antonius 1937. van Balen 1914: 218. Bartlett 1873. Bell 1793. Boitard 1842: 405. Brandt 1878a: 41, 45. Brehm 1877: 516. Bruton 1963: 7. Carter et al. 1946: 153. Chenu & Desmarest 1858: 9. Crandall 1968: 506. Cuvier 1829: 247. Desmarest 1819: 243. Deuve & Deuve 1962: 100. Duncan 1892: 332. S. Flower 1900: 368. Flynn 1978: 6. Foenander 1952: 181. Friedel 1872b: 361. Geoffroy & F. Cuvier 1825. Giebel 1855: 203. Gloger 1841: 125. Grassé 1955: 1111-1113. Groves & Kurt 1972: 1-2. Guggisberg 1966a: 106. Harper 1945: 390. Harrison 1964: 210, 1974: 277. Jardine 1836: 179-181. Krumbiegel 1960: 19. Lekagul & McNeely 1977: 656. Lydekker 1892a, 1907a: 37, 1925: 178. Medway 1969: 103. Metcalfe 1961: 183. Mohnike 1883: 422. Müller & Schlegel 1845: 191. Mukherjee 1974: 343. Noack 1886. Noll 1873: 81. van Peenen 1969: 259. Pocock 1928b. Prater 1965: 232. Reynolds 1968a: 6. Ridley 1901: 106. Sanyal 1892: 134 (newborn). von Schreber 1835: 325-328. Schinz 1824. Selater 1872c: 427. Selous n.d.: 184. Shaw 1800: 207. Smith 1935: 47. Sonne-Hansen 1972: 296. Stockley 1928: 100. van Strien 1974a: 8. Talbot 1960: 169. Tun Yin 1967: 157. Ullrich 1955. Weatherbe 1939: 155. Wood 1851: 756. Wroughton 1915: 719. Zeuner 1934: 33.

7.4.2 Colour

Anderson 1872. Blanford 1891. Dollman 1928: 225 (Perak). Flower 1876 (Borneo). Hose 1893: 63. Hubback 1939a: 597. Müller & Schlegel 1845: 192. Prater 1939: 623. van Strien 1974a: 10. Tjeenk Willink 1905: 201. Wroughton 1915: 719.

Red variety, Badak Api: Blyth 1862a: 161 (Burma). Clifford 1927: 33 (fabulous monster of Malay tradition). Flower 1900: 368. Ridley 1895: 161. Tun Yin 1956: 693.

7.4.3. *Footprints*

Flynn 1978: 6. Hubback 1939a: 599, 610 (sexual difference). Sody 1937: 728 (compared with *R. sondaicus*). van Strien 1978a (difference from *R. sondaicus* in shape and size). Strickland 1967: 3-4 (form, method of measuring, confusion with *Tapirus indicus*).

7.4.4. *Footprint measurements*

Burgess 1951. Flynn 1981a: 5 (Borneo), 1981b: 17 (Malaya). Lekagul & McNeely 1977: 652. Milton 1962: 57 (Malaya). Peacock 1933: 75. van Strien 1974a: 17-19.

7.4.5. *Hair*

Anderson 1872. Blyth 1862a: 158. Cave 1969 (body hair). Cave & Wingstrand 1972 (vibrissae on both eyelids). Dollman 1928: 255 (Perak). Groves 1967a: 222. Hubback 1939a: 597 (fringes). Manson 1876: 177. de Meyere 1894: 375. Pocock 1915 (absence of fringes). Prater 1939: 624. Sclater 1872a, b, d, h, 1873a. van Strien 1974a: 11. Ullrich 1955 (young, Sumatra).

7.4.6. *Horn*

Foenander 1952: 182 (Malay distinguish 4 types of horns). Groves 1971: 246-247. Hubback 1939a: 598 (third horn). Lubach 1868 (third horn). Neuville 1927: 188. Pryer 1881: 395 (third horn). van Strien 1974a: 11-12.

7.4.7. *Horn measurements*

Anon. 1895. Blyth 1862a: 158, 1868a, b. Christopher 1916: 226. Dammerman 1937. Gray 1854. Hubback 1939a: 598. Koffend 1974: 9. Lydekker 1892a, 1900: 28, 1907a: 38, 1907c: 73. Manson 1876: 177. Neuville 1927: 188. Otto 1903: 144. Peacock 1933: 71. Pocock 1915. Prater 1939: 624. Ward 1896: 283.

7.4.8. *Size*

Anon. 1895. Anderson 1872. van Balen 1914: 218. Blanford 1891. Boitard 1842: 405. Brandt 1878a: 41. Burton 1962: 210. Chenu & Desmarest 1858: 9. Coenraad-Uhlig 1933: 115. Crandall 1968: 506. Deuve & Deuve 1962: 100. Evans 1904: 160 (Burma female), 1905: 561 (Burma male). Foenander 1952: 182. Guggisberg 1966a: 106. Harrison 1964: 210, 1974: 277. Harper 1945: 390. Hose 1893: 63. Hubback 1939a: 597 (Pahang male, Malaya female). Lekagul & McNeely 1977: 656. Lydekker 1900: 28, 1907a: 37, 1925: 178. Medway 1969: 103. Mohnike 1883: 422. Müller & Schlegel 1845: 192 (Sumatra female). Noack 1886 (Malaya, Hamburg zoo). Peacock 1931: 447 (Burma male), 1933: 71. van Peenen 1969: 259. Prater 1939: 623, 1965: 232. Ridley 1901: 106 (Perak female). Schinz 1824: 289. von Schreber 1835: 238. Selous n.d.: 184. Smith 1935: 47. Sonne-Hansen 1972: 296 (Copenhagen zoo, female). Stockley 1928: 100. van Strien 1974a: 9, 14 (young). Talbot 1960: 169. Tate 1947: 352. Tjeenk Willink 1905: 201. Wroughton 1915: 718 (Tenasserim female).

7.4.9. *Size at birth and growth*

Bartlett 1873. Groves 1965: 128 (growth stages), 1967a: 227 (growth stages based on tooth eruption). Prater 1939: 622.

7.4.10. *Skin*

Neuville 1927: 181-182. van Strien 1974a: 10. Wray 1905: 65.

7.4.11 *Age classes*

Groves 1965: 128, 1967a: 227 (growth stages). Guérin 1980: 154-156 (comparison of adult and subadult skulls).

7.4.12 *Sexual dimorphism*

Blyth 1862a: 157 (horns). Guérin 1980: 157, 158 (no difference). Hubback 1939a: 598, 610 (horn length, footprints). Loose 1975: 26 (no sexual characters in skulls). Pocock 1946c: 319 (nasal bones). Thenius 1955a: 4 (nasal septum).

7.5 ANATOMY

7.5.1 *General dissections*

Beddard & Treves 1889 (anatomy of 2 specimens). Garrod 1873. Giebel 1855. Grasse 1955: 1108-1118. Groves & Kurt 1972: 3 (review). Home 1821: 271, pl. 21. von Schreber 1835: 329. van Strien 1974a: 13 (review).

7.5.2 *Organs*

Brain: Garrod 1879.

Epipharynx: Cave 1973 (bursa epipharyngea).

Eye: Cave & Wingstrand 1972 (eyelashes). van Strien 1974a: 12.

Heart: Cave 1981 (cardiac receptor system). Meinertz 1975.

Intestines: Beddard 1902 (small intestine as taxonomic character). Cave & Aumonier 1963a (histology).

Kidney: Meinertz 1974.

Lymph: Cave & Aumonier 1962b (lymph node).

Musculature: Kjaersgaard 1974 (musculus articularis humeri).

Parathyroid: Cave 1976b.

Pedal scent gland: Beddard 1902 (absent).

Penis: Cave 1964b. Forbes 1885. van Strien 1974a: 12.

Reproductive organs: Disselhorst 1904: 317. Evans 1904: 160. van Strien 1974a: 12 (udder).

Thyroid gland: Cave 1976b.

Tonsils: Cave 1979a: 482-486.

7.6 OSTEOLOGY

7.6.1 *Skull*

Cave 1959 (foramen ovale), 1965: 503 (lacrimal epiphysis). Chakraborty 1972: 125-128 (occipital surface, foramen magnum, subaural channel). Flower 1878 (individual variation, lachrymal foramen). Friant 1948 (articulation of lower jaw). Guérin 1980: 33-54 (description). Home 1822: 42 (cavity). van Kampen 1905: 573-575 (tympanal region). Lekagul & McNeely 1977: 652. Loose 1975: 15 (characters), 14 (otic region). Pander & d'Alton 1821: 21, pl. 9a (young skull). Pocock 1915 (individual variation), 1945b (characters). Thenius 1955a (nasal septum). Toulou 1902 (comparison with *R. hundsheimensis*).

7.6.2 *Skull measurements*

Chakraborty 1972. Flower 1878: 635 (8 skulls). Garrod 1873: 93. Gray 1868: 1032 (2 skulls), 1873a: 359 (2 skulls). Groves 1965: 128 (13 skulls), 1967a: 228. Guérin 1980: 49, 53. Hooijer 1946a: 26. Loose 1975: 15, tab. 11 (Zeuner's angles in quartiles).

Miller 1942: 161 (immature male). van Peenen 1969: 259 (Borneo). Toulou 1902.

7.6.3 *Dentition*

de Blainville 1846: 51-58. Desmarest 1819: 243. Gray 1873a: 356. Groves 1967a: 230 (measurements). Guérin 1980: 54-73 (description, measurements). Hooijer 1945: 252, 1946a: 9-12. Lydekker 1880b: 141, 1925: 178. Müller & Schlegel 1845: 191. Owen 1845: 587ff. van Strien 1974a: 13. Toulou 1902.

7.6.4 *Postcranial skeleton*

Clutton-Brock 1965: 10 (scapula size). Giebel 1855: 203. Guérin 1980: 74-152 (descriptions of bones, measurements). Heller 1913: 15 (vertebral formula). Home 1821: 270-271, pl. 22; 1823, pl. 67. Pouchet & Beauregard 1889: 198.

7.7 DISTRIBUTION AND STATUS

7.7.1 *General reports*

Anon. 1967h. Antonius 1914: 21. Bruton 1963: 8 (map). Coolidge 1964: 33. Ellerman & Morrison-Scott 1951: 340. Groves 1967a: 225 (map). Groves & Kurt 1972: 2 (map). Guggisberg 1966a: 105, fig. 4 (map). Hattenorth & Trense 1956: 108. Krumbiegel 1960: 16 (map). Lydekker 1893: 382, 1907a: 38. Ripley 1966: 149. Schenkel 1980. Simon 1966, 1967. Spinage 1962: 179 (map). van Strien 1974a: 31-35 (maps), 58-64 (legislation), 50-53 (hunting), 1979b (map). Stonehouse 1981: 58 (map). Talbot 1960: 171 (map). WWF 1979 (ban on rhino imports from Hong Kong).

7.7.2 *Status*

Groves & Kurt 1972: 4. Kirk 1968: 150. Llopis 1974b: 21. Prater 1965: 232. Schenkel & Lang 1969: 1. van Strien 1974a: 31-35.

7.7.3 *Bhutan*

Blanford 1891. Lydekker 1900: 29, 1907a: 38.

7.7.4 *Borneo*

Review: Borner 1979a: 67. Brandt 1878a: 44. Groves & Kurt 1972: 4. Harper 1945: 391-393. Jentink 1884, 1895. Medway 1977: 144-145. Rookmaaker 1977c, d. van Strien 1974a: 29-31. Talbot 1960: 182-183.

Status: Anon. 1963c. Bartlett 1891. Bruton 1963: 8. Comyn-Platt 1937b: 54. Fitter 1968: 58. Grzimek 1958: 118. Harrison 1948, 1949b, 1965a, 1965b: xix, 1975. Simon 1966, 1967.

Hunting: Hose 1926: 106 (Punans: spears, poisoned darts). Hose & McDougall 1966: 145 (Punans). Krohn 1927: 246 (rhino spear). Nieuwenhuis 1900, II: 61, 66 (Kayans, Punans). Pfeffer 1963: 89 (Kalimantan). Piazzini 1963: 163 (Punans). Rookmaaker 1977b: 296 (review).

Legislation: Chin 1971: 359 (Sarawak).

'Borneo' only: Anon. 1851: 454. van Balen 1914: 219. de Beaufort 1926: 60. van Bemmelen 1969: 70. van Bemmelen 1915: 92. Blanford 1891. Blyth 1862a: 170, 1863a: 156, 1872b: 3108, 1875: 53. Carter et al. 1946: 153. Chasen 1940: 207. Collet 1925: 66. Coomans de Ruiter 1948: 156. Dammerman 1937. Delsman 1951: 82. Deuve & Deuve 1962: 100. Dollman 1937: 73. Everett 1893. Flower 1900: 368. Foenander 1952: 183. Fraser 1869. Gyldenstolpe 1919a: 56. Hagen 1890: 105. Hanitsch 1908: 8.

Hoogerwerf 1954: 224. Hose 1896: 105. Hose & McDougall 1966: 3, 143. Hubback 1939a: 594. Jentink 1889: 25. Laurie & Olivier 1977: 660. Loch 1937: 145. Loose 1975: 16. Lydekker 1900: 29, 1925: 178. Maliepaard & de Vos 1961: 96. von Martens 1876: 257. Medway 1969: 103. Müller 1839: 39. Pollok & Thom 1900: 166. Prater 1965: 232. Raven 1935: 261. Sowerby 1930: 218. Street 1961: 110. Strickland 1967: 1. Schwane 1853: 36. Selous n.d.: 184. Tate 1947: 353. Tjeenk Willink 1905: 201. Ward 1896: 283.

Absence asserted: Jentink 1881: 293 (uncertain). Jerdon 1867: 234. Murray 1868a (uncertain), 1868b: 373 (uncertain). Temminck 1847: 410 (uncertain). Veth 1854: xii (uncertain).

Records:

Borneo general: Bruce 1924: 70 (Tempasuk dt.). Guggisberg 1966a: 103-105. Harrison 1938: 245, 1956: 264, 1961a. Jentink 1897: 64 (localities). Medway 1965a: 155-156. Shelford 1916: 41 (interior). Spenser St. John 1863, II: 246 (rare in wilder parts).

Brunei: van Lynden & Groll 1851: 565.

Kalimantan: Anon. 1937a (Bukit Raja, Kutai), 1937b (Kutai), 1958b (Kutai). Bock 1881: 251 (Kutai). Buys 1927: 45 (Kong Kemoel). Endert 1927: 173 (Kong Kemoel). Fischer 1910: 278 (Apo Kayan). Groves 1967a: 223. Harrison 1949a: 139 (Apo Kayan in 1945), 1949b (localities), 1955, 1975: 71 (R. Bahau, 1945). Hoogerwerf & van Steenis 1936: 97 (Boekit Raja). Hose 1893: 63 (interior). Keller 1932 (R. Koetai). van Lynden & Groll 1851: 565 (Kottaringin). Lyon 1911: 54, 56, 58 (localities in S.W. Kalimantan). Merens 1910: 545 (Apo Kayan). Mjöberg 1929: 108, 113 (Apo Kayan), 1930: 10-13 (R. Boh). Moor 1837, appendix p. 18 (Kalimantan). Nederlandsche Commissie 1937a (Paloeng Mt.). Nieuwenhuis 1900, II: 61, 319 (upper Mahakam, Ajo Mt.), 1904: 361, 392 (Mts. Situn, Lesong). Pfeffer 1958: 132-138 (localities in N. and E. Kalimantan). Piazzini 1963: 163 (ulu Bahau). Schneeberger 1945: 562 (Kelabit plateau). van Strien 1981a (Kutai reserve, no viable population). van Strien et al. 1979 (Kutai reserve). Tehupeiortij 1906: 47, 86, 101, 104, 191 (Apo Kayan, localities). Tillema 1936: 45, 77, 50 (Apo Kayan). de Voogd & Siccama 1939: 139, 141 (localities). Westermann 1939: 337, 345, 352 (localities). Witkamp 1932a: 172 (Kutai, localities), 1932b (Kutai, localities). van der Zon 1977 (absent from Bukit Raya; Kutai game reserve). Zondag 1931: 222 (localities).

Sabah: Anon. 1981b (Silabukan forest reserve, 1 died). Burbidge 1880: 302 (R. Sagaliad). Burgess 1961: 150. Carson 1968: 496 (status). Corner 1964: 7, 20, 29 (Mt. Kinabalu). Davies & Payne 1981: 120 (Silabukan). Davis 1962: 120 (Tingkayu 1927). Evans 1922: 58 (between Kinabalu and Kudat). Fitter 1974b: 445. Flower 1880. Flynn 1981a: 1, 1982 (recent reports; Silabukan area survey: 4-6 present). Gomes 1911: 149. Jenkins 1971: 177 (Mt. Kinabalu 1961; Mt. Tambuyokan 1970). Kiew & Furtado 1977 (Danum valley). MacKinnon 1970 (recent reports, status), 1974: 37, 112, 198 (Segama). Pryer 1881: 394 (Sandakan bay), 1886 (Sandakan). Sandilands 1974 (Karamuah, Tambunan, 1920's). Shelford 1916: 41 (status). de Silva 1968: 145 (tracks in 1957). Wycherley 1969: 146 (status). *Sarawak:* Arnold 1959: 93-94 (Usan Apau). Banks 1931: 19, 1935: 329 (Mt. Mulu), 1937, 1978: 224. Bartlett 1891 (Rajah R.). Beccari 1904: 311. Davis 1958: 146 (Kelabit plateau). Harrison 1938: 231 (Mt. Kalulong), 1949b (localities), 1956: 263, 264 (R. Bahau; status), 1961b: 90 (status). Mjöberg 1929: 68 (R. Baram).

7.7.5 *Burma*

Review: Ansell 1947. Groves & Kurt 1972: 4. Harper 1945: 395. van Strien 1974a:

20-24. Talbot 1960: 174-178.

Status: Anon. 1963c. Ansell 1947: 264. Borner 1979a: 66. Bruton 1963: 8. Fitter 1968: 58, 1974b: 445. Maliepaard & de Vos 1961: 96 (in 1947, 1955). Reynolds 1954: 106. Shebbeare 1953: 148. Simon 1966, 1967. Thom 1943: 258.

Legislation: Ansell 1947: 254-256. Reynolds 1954: 104. Tun Yin 1954b: 265, 1967: 162.

'Burma' only: Blyth 1863b: 137, 1875: 52. Brandt 1878a: 44. Burton 1951: 729. Flower 1900: 368. Foenander 1952: 183. Groves 1967a: 223. Grzimek 1958: 118. Hobley 1932: 20. Hubback 1939a: 594. Hanitsch 1908: 8. Laurie & Olivier 1977: 660. Lydekker 1900: 29, 1925: 178. Medway 1969: 103. Pollok 1879, 1: 94. Sanyal 1892: 131. Selous n.d.: 184. Sterndale 1884. Stockley 1928: 101. Street 1961: 110. Strickland 1967: 1. Tate 1947: 353. Ward 1896: 283.

Records: Anon. 1935: 91 (localities). Anderson 1872: 129 (Mogonny dt.), 1878: xxi (Mogoung dt.), 1889: 333 (Kisseraing island, unidentified; High island, double-horned). Blyth 1842: 448 (Ye), 1868b: 130 (Yunzalia dt.; Martaban), 1872a (upper 'urmah), 1875: 52 (Arakan hills: R. crossii). Borner 1979a: 66. Cantor 1846: 263 (probably Tenasserim). Christison 1945 (Arakan, localities, map). Christopher 1916: 226, 230-233 (several records). Deuve & Deuve 1962: 100 (localities). Evans 1905: 557 (upper and lower Burma). Evans 1912: 122 (Tavoy, Shan states). Faunthorpe 1924a (lower Burma). Fitter 1968: 58. Fytche 1878: 104 (Tavoy dt.). Guggisberg 1966a: 103, 105. Helfer 1838: 860 (Tenasserim). Henri d'Orléans 1898: 320 (Nam Tsai, Singpho area - cf. Hubback 1939a: 596). Lang 1924c: 528 (Pegu). Low 1836: 50 (Tenasserim). Luce & Tin 1939: 267 (central Burma, 4th century). Lydekker 1900: 30 (Mergui), 1905: 152 (Singpho), 1907a: 32-34 (Singpho). Mason 1882: 453 (coast near Koranji island, 1866, skulls sent to British Museum; Arakan). Milton & Estes 1963: 62 (Tenasserim). Mukherjee 1974: 343. Peacock 1931: 447 (between rivers Uyu and Chindwin), 1933: 72 (localities). Pollok & Thom 1900: 166, 167 (Mergui; Ruby Mines dt.), 82 (Cape Negrais, one shot). Prater 1965: 232. Reynolds 1954: 106-107 (localities). Schenkel & Schenkel 1980. Selater 1862 (Tavoy, near Siam border). Shortridge 1915: 772, 774 (Victoria Point, near Bankachon and Maliwun). Smith 1935: 49. Thom 1935: 141 (Arakan, Yoma), 1943: 267, 274 (localities in Arakan and Pegu Yomas). Tun Yin 1954a, c (reports listed), 1955a (Minbu forest division), 1956 (records Kachin state 1955-56), 1967 (list of reports), 1980 (recent reports). Vernay 1924: 625, 627 (Pegu Yomas, one shot, one captured 1924). Wroughton 1915: 718 (Bankachon, Victoria Point 1914). Wroughton & Davidson 1918: 475 (Pegu, tracks 1915-16).

Kahlu Game Reserve: Hubback 1939a. E.E. Peacock 1931: 53 (possibly *R. sondaicus*). Shebbeare 1953: 146. Tun Yin 1954a: 83-84 (reports 1948-1953), 1954b: 274 (reports 1939-1948), 1955b (reports 1946-1948), 1967: 158 (seen in 1940). Weatherbe 1939, 1940: 152 (status).

Schwe-U-Daung Game Reserve: Ali & Santapau 1959 (status). Milton 1961 (status). Milton & Estes 1963: 11 (status since 1940). E.E. Peacock 1931 (one seen). Peacock 1931: 447, 1933: 72 (fairly common). Thom 1935: 141. Tun Yin 1954b: 275 (status 1948-1951), 1955b: 95 (status 1939, 1948, poaching). Weatherbe 1940: 152 (still common).

7.7.6 India and Bangladesh

Review: Harper 1945: 394-395. Mukherjee 1974: 344, map. Rookmaaker 1980b: 255-258. van Strien 1974a: 20. Talbot 1960: 174.

Legislation: Bengal Government 1932.

'India' only: Deuve & Deuve 1962: 100. Flower 1900: 268. Grzimek 1958: 118. Hanitsch 1908: 8. Henri d'Orléans 1898: 320. Hubback 1939a: 594. Lydekker 1900: 29, 1925: 178. Maliepaard & de Vos 1961: 96. Mason 1882: 453. Medway 1969: 103. Slater 1872c: 427. Selous n.d.: 184. Strickland 1967: 1. Tate 1947: 353.

Records: Anderson 1872 (Chittagong, Cossyah hills). Baker 1887: 249 (Chittagong). Blanford 1891. Blyth 1862d: 366 (Assam, 1 killed), 1863a: 156 (Assam), 1872a: 400 (Assam, 1 killed), 1872b: 3106 (trophy seen), 1875: 52 (Assam, Chittagong). Borner 1979a: 66. Cockburn 1883: 63 (Garó, Khassia and Naga hills). Foenander 1952: 182 (Assam). Gee 1948b: 64 (Sona Rupa), 1950a: 85 (Tirap Frontier Tract), 1964: 157 (Mizo hills, until 1935). Guggisberg 1966a: 102. Hobley 1932: 20. Hood 1869 (R. Sungoo, Chittagong). Inglis et al. 1919: 825 (Jalpaiguri dt.: R. Sankos 1864, Dalgion forest). Jerdon 1867: 234 (as far north as 23° N). Lydekker 1907a: 38 (Assam, Tippera). Manson 1876: 177 (near Comilla; R. Sungoo, Chittagong). Milroy 1935: 102 (Lushai, Manipur, N. Cachar). Milton & Estes 1963: 42 (Naga hills, Lasai tract). Pollok & Thom 1900: 166 (Assam, Comilla 1876). Sanyal 1892: 131. Slater 1875b (Dohbree), 1877 (Comilla; Sunderbans). Shebbare 1953: 147 (Assam unconfirmed, possibly 1 killed 1952; Tirap Frontier Tract). Stockley 1928: 101. Stracey 1949: 470 (Assam, records 1875-1949). Ward 1896: 283 (Assam).

7.7.7 *Malaya*

Review: Metcalfe 1961: 185. van Strien 1974a: 25-27. Talbot 1960: 180-181.

Status: Anon. 1963c, 1967c. Borner 1979a: 66. Bruton 1963: 8. Fitter 1968: 58, 1974b: 445. Hislop 1966, 1968: 278. Koffend 1974: 9. Schenkel & Schenkel 1980. Simon 1966, 1967. Stevens 1968: 15. Wycherley 1969: 146.

Hunting: Begbie 1967: 7-8 (Semangs, in mud). Errington 1882: 334 (Sakai, poisoned arrows). Hubback 1939a: 612. de Morgan 1885: 650 (Sakai, poisoned arrows). Skeat & Blagden 1906: 203, 207 (Semangs, in mud; Sakai, spring-spear traps). Wray 1905: 63 (pitfalls).

Legislation: Foenander 1952: 190. Strickland 1967: 1. Wycherley 1969: 146.

'Malaya' only: de Beaufort 1926: 60. Blanford 1891. Blyth 1863a: 156, 1863b: 137, 1875: 53. Brandt 1878a: 44. Cantor 1846: 263. Chasen 1940: 207. Deuve & Deuve 1962: 100. Giebel 1855: 204. Hagen 1881: 556. Hanitsch 1908: 8. Harrison 1974: 277. Kloss 1906: 148, 1909: 36. Laurie & Olivier 1977: 660. Lydekker 1900: 29, 1925: 178. Maliepaard & de Vos 1961: 96. Mason 1882: 453. Medway & Balasingan 1968: 465. Newbold 1838: 70. Noll 1873: 82. Pollok & Thom 1900: 166. Prater 1965: 232. Raven 1935: 261. Slater 1872c: 427. Selous n.d.: 184. Sterndale 1884. Stockley 1928: 101. Street 1961: 110. Strickland 1967: 1. Swierstra 1888: 19. Tate 1947: 353. Ward 1896: 283.

Records: Anon. 1967g (Selangor, R. Dusun), 1970b (Johor, Combak Pukin). Barnes 1903: 7 (Pahang, Mt. Benom, rhino dung). Bequaert 1933: 137, 140 (Selangor, R. Bernam). Berger 1934: 97 (Selangor, R. Bernam, shot by Vernay 1933). Boettger 1905 (Perak, Dindings). Borner 1979a: 66. Flower 1900: 367, 368 (localities). Foenander 1952: 183 (localities). Groves 1967a: 223 (mainly in west). Guggisberg 1966a: 105. Hislop 1966, 1968: 278, 280, 281 (localities, map). Hubback 1939a: 614, pl. 2 (N. Pahang, ulu Benus). MacKie 1965: 186 (Perak). Marchette 1965: 130 (Kedah, Mt. Jerai, tracks by tapir, vs. Ridley 1900). Mayer 1922: 125 (Trengganu, R. Stû, 1 caught). Medway 1968a (Selangor, R. Dusun), 1969: 103 (isolated). Milton 1962: 57 (Selangor 1953, 1957). Moor 1837: 248 (Johor, Naning, unidentified). O'Hara 1907 (Perak, Dindings, 1 caught). Pagden 1965 (Kedah, Mt.

Jerai, seen ca. 1925). Pocock 1915 (Selangor, Pertang, Jelebu, 2 shot by Hubback). Ridley 1900: 27 (Kedah, Mt. Jerai: turf ploughed up by rhino), 1901: 106 (Perak, S'tiawan, 2 trapped). Schaurie 1968: 286. Shuttleworth 1967: 89, 90 (Johor, Endau region 1 seen; ulu Tiram 1 shot 1948). Soepadmo 1970 (animal reported in N. Pahang probably is tapir). Stevens 1968: 12, 15. Strickland 1968 (R. Dusun). van Strien 1974b: 62 (Selangor, R. Dusun). Strugnell & Willbourn 1932: 19 (Pahang, Mt. Benom, tracks). Swettenham 1895: 94 (Perak 1876). Wallace 1869: 26 (Johor, Mt. Ophir, unidentified).

Endau-Rompin, Pahang: Anon. 1976a, 1978d. Flynn 1978: 10 (impact of logging), 1979 (status), 1980 (status), 1981b (distribution and status: 20-25 present), 1982 (status). Scott 1975 (status; research by Flynn). van Strien 1977d: 2.

Taman Negara, Pahang: Anon. 1951: 202 (tracks), 1971d (status and distribution, fig. 3). Fetherstonhaugh 1951b: 230. Hislop 1961: 98. Khan 1971: 128 (recent reports). McKie 1965: 186 (in 1940). Malaya Game dept. 1950: 88. Ridley 1894: 59 (Tahan river woods).

Slim River, Perak, picture taken on Lima Bilas oil estate by G. Bazin in 1958. Identified as *R. sondaicus* by Ali & Santapau 1958b, Grzimek 1958: 119 and Hoogerwerf 1970: 53. Identified as *D. sumatrensis* by Groves & Kurt 1972, Grzimek 1960a: 22, Maliepaard & de Vos 1961: 94, Metcalfe 1961, pl. 33, Shuttleworth 1967: 89.

7.7.8 Sumatra

Review: Borner 1979a: 22, 28-57, 63. Guggisberg 1966a: 102, 105. Harper 1945: 390. van Strien 1974a: 27-29. Talbot 1960: 181.

Status: Anon. 1963c. Borner 1979a: 35, 58-64. Bruton 1963: 8. Fitter 1968: 58, 1974b: 445. Groves & Kurt 1972: 4. Grzimek 1958: 118. Heynsius-Viruly & van Heurn 1935: 46. Pfeffer 1958: 132. Schenkel & Schenkel 1969a, 1980. Shebbeare 1953: 148. Simon 1966, 1967. Talbot 1960: 182.

Hunting: Anon. 1937b, c. van Balen 1914: 220. Bickmore 1868: 495 (pitfalls). Borner 1979a: 33-34 (traps). Coenraad-Uhlig 1933 (pitfalls). Collet 1925: 219. Groeneveldt 1938: 107. Hagen 1881: 556. van Hasselt 1881: 59, pl. 123 fig. 2 (spear mechanism). Hoogerwerf 1939b: 283. Kops 1919: 97. Kreemer 1923, II: 118, 120 (pitfalls, knives). Müller & Schlegel 1845: 192 (pitfalls). Snouck Hurgronje 1903: 360 (trap with sharp wood). van Steenis 1938 (pitfalls). van Strien 1975, 1976c (traps, snares). Veth 1873: 709 (pitfalls).

Legislation: Basjarudin 1967. Olivier 1916: 156.

'Sumatra' only: Anon. 1851: 454. van Balen 1914: 219. Begbie 1967: 510. van Bemmelen 1969: 70. van Bemmelen 1915: 92. Blanford 1891. Blyth 1863b: 137, 1872b: 3107, 1875: 53. Boitard 1842: 405. Brandt 1878a: 44. Carter et al. 1946: 153. Chasen 1940: 207. Collet 1925: 66. Coomans de Ruiter 1948: 153. Delsman 1951: 82. Desmarest 1819: 244. Deuve & Deuve 1962: 100. Fischer 1829: 415. Flower 1900: 368. Foenander 1952: 183. Giebel 1855. Hagen 1890: 105. Hanitsch 1908: 8. Heynsius-Viruly & van Heurn 1935: 42. Hoogerwerf 1954: 224. Hubback 1939a: 594. Jentink 1881: 293, 1895. Jerdon 1867: 234. Kops 1919: 7, 93, 97. Laurie & Olivier 1977: 660. Loose 1975: 16. Lydekker 1900: 29, 1925: 178. Marsden 1811: 116. von Martens 1876: 257. Medway 1969: 103. Milton 1964a. Mohnike 1883: 420. Noll 1873: 82. Pollok & Thom 1900: 166. Polo 1958: 253 (unicorn in lesser Java). Prater 1965: 232. Raffles 1822, 1830: 441, 644. Raven 1935: 261. Robinson & Kloss 1918: 74. Schinz 1824. Sclater 1872c: 427. Selous n.d.: 184. Snelleman 1887: 26. Snouck Hurgronje 1903: 360. Sowerby 1930: 218. Sterndale 1884. Street 1961: 110. Strickland 1967.

Swierstra 1888: 19. Tate 1947: 353. Temminck 1835: viii. Tjeenk Willink 1905: 201. Veth 1873: 709. Ward 1896: 283. Wycheley 1969: 146.

Records: Andersen 1963 (R. Siak). Anderson (1826) 1971: 284 (east coast). Basjarudin 1968: 391. Bickmore 1868: 495, 508 (Agar Sumpur). Bock 1881: 279 (Sidjoengdjoeng). Borner 1974c, d, e, 1975a, 1979a (recent reports), 1975c (Kerinci-Seblat area). Bünnemeijer 1921: 35 (Korintji). Carpenter 1938: 62 (localities in Aceh). Coomans de Ruiter 1928: 35, 38 (Palembang). Dammerman 1926: 316 (possibly Abang besar, Riau-Lingga archipelago, unidentified), 1932: 124 (Simalambe mts. 1912), 1937 (Lampongs). Forbes 1885: 158, 166 (Mt. Tengamus). Groeneveldt 1938 (localities). Grzimek 1960a: 22 (R. Siak). Hartert 1901-02: 166 (Atjeh: Serdang, 1 seen). Hartmann 1936: 55 (Tanggamous mts. unidentified). Heynsius-Viruly & van Heurn 1935: 82, 84, 86, 87 (recent sightings). Hijmans van Anrooij 1885: 276 (R. Siak). Jentink 1889: 25 (Tandjong Morawa, collected by Hagen). Junghuhn 1847: 112 (Lubu Radja, Battaländer, unidentified). J. Kruyt 1877: 130 (R. Rajah, Atjeh). Lekkerkerker 1916: 93, 107 (Aceh, unidentified). Lyon 1908: 622 (Aru Bay, tracks). MacKinnon 1973: 240 (Aceh: R. Alas, north of Kutatjane). Maliepaard & de Vos 1961: 96 (south). Milton 1963 (R. Siak, none seen), 1964b (R. Siak, none left). Müller & Schlegel 1845: 192 (mts. east of Padang). Neumann 1885: 128 (R. Pane, R. Bila, unidentified). Otto 1903: 139-145 (R. Lapan, Paya Atjeh, 1 shot). Rappard 1936: 112 (South, tracks). von Rosenberg 1878: 104 (in mountains, rarely seen). Rudin 1935 (Ranau, Palembang). Schneider 1906: 123, 125, map facing p. 130 (localities; shot Tandjung Laut). Skaftø 1961, 1962, 1964 (R. Siak). van Steenis 1938 (Kapi, Atjeh). Taman 1961 (R. Siak, Riau). Ullrich 1955 (Atjeh, Langsar 1928). Verbeek 1883: 659 (Kotta Baroe). Volz 1912: 373 (Karo mts.). de Voogd 1933 (south, unidentified). de Voogd & Siccama 1939: 109, 111, 114, 118, 125 (recent reports). van Waterschoot 1928: 57 (Indrapoera). Zondervan 1891: 534 (R. Kwantan).

Gunting Leuser reserve: Anon. 1937c. Borner 1974a, b, c, 1975a, b, 1979a. Carpenter 1938: 62. Depari 1979. van Heurn 1928: 51. van Hooff 1978: 119. Hoogerwerf 1939b: 276, 281. Kurt 1970a, b. Miller 1942: 162. Milton 1964c. Schenkel & Schenkel 1972a. Scheygrond 1971: 43, 1972: 200. van Steenis 1938. van Strien 1974b, 1975, 1976a-c, 1977b, c, d, 1978b, 1979a-d, 1981b.

7.7.9. Thailand

Review: Borner 1979a: 66. Harper 1945: 395. van Strien 1974a: 24. Talbot 1960: 178.

Status: Anon. 1963c. Bruton 1963: 8. Fitter 1974b: 445. Schenkel & Schenkel 1980.

Hunting: Gyldenstolpe 1916: 51 (impossible from elephant back). Pallegoix 1854: 75 (with bamboo sticks).

'Thailand' only: Blanford 1891. Blyth 1863a: 156, 1872b: 3108, 1875: 53. Bourret 1927: 62. Brandt 1878a: 44. Cheminaud 1939: 78, 82. Flower 1900: 368. Foenander 1952: 183. Grzimek 1958: 118. Hatting 1967: 164. Hubback 1939a: 594. Laurie & Olivier 1977: 660. Lydekker 1900: 29, 1925: 178. Maliepaard & de Vos 1961: 96. Medway 1969: 103. Pallegoix 1854: 156. Pollok & Thom 1900: 166. Prater 1965: 232. Selous n.d.: 184. Sterndale 1884. Street 1961: 110. Strickland 1967: 1. Suvatti 1950: 587. Tate 1947: 353. Ward 1896: 283.

Records: Anon. 1974d (Khao Soi Daow G.R., Chantaburi prov.). Deuve & Deuve 1962: 100 (Tenasserim). Fitter 1968: 58 (Tenasserim border). Gairdner 1915: 136 (Ratburi and Petchaburi dts.). Guggisberg 1966a: 105 (south).

Gyldenstolpe 1914: 28 (north and east), 1916: 50 (Chieng Hai), 1919b: 170 (S.W. and north). Hatting 1967: 156, 164 (Ban Kao, neolithic). Lekagul 1963 (Karnchanaburi dt. 1953-62), 1972 (Chaiyaphoom, Krabi, Trang provinces). Lekagul & McNeely 1977: 656. Low 1836: 44 (Keddah, unidentified).

7.7.10 Prehistoric occurrence

General: Groves & Kurt 1972: 2-3 (review), Guérin 1980: 168 (review), Hooijer 1946a: 27 (size diminution during holocene), 1949: 125 (prehistoric Sumatran specimens larger than recent Sumatran specimens).

Borneo: Banks 1931: 21. Beccari 1904: 135 (Bau). Busk 1869 (fossil teeth identified as *R. sondaicus*). Harrison 1957: 164 (Niah). Hooijer 1945, 1946a: 10 (teeth described by Busk are *D. sumatrensis*). Medway 1958, 1959: 157, 1964, 1966 (Niah), 1965b (Niah, rhinos equal in size or fractionally larger than recent specimens; teeth described by Busk are *D. sumatrensis*). Rookmaaker 1977c: 56 (review).

Sumatra: Hooijer 1946a: 16-29 (size diminution during holocene; description of Sumatran material). Sody 1946 (proposed *Dicerorhinus sumatrensis eugenei*, type-specimen: M² coll. Dubois no. 662a (Museum Leiden), Ngatau Ajer, near Pajakombo, Sumatra; larger than recent subspecies).

7.8. ECOLOGY AND BEHAVIOUR

7.8.1 Field studies

Borner 1979a, Flynn 1978-1981. Hubback 1939a, b. Strickland 1967 (summarized in Medway 1968). van Strien 1975-1979.

7.8.2 General reports

Brehm 1877: 520ff. Groves & Kurt 1972: 3-4. Guggisberg 1966a: 107-113. Haltenorth & Trense 1956: 108. Laurie 1982: 332-338 (comparison with other species). Smith 1935: 48. Sonne-Hansen 1972 (Copenhagen zoo). van Strien 1974a (review). Tun Yin 1967: 158-162.

7.8.3 Activity pattern

Anon. 1935: 91. Ansell 1947: 252. Borner 1979a: 137. Bruton 1963: 7. Fytche 1878: 105. Hagen 1890: 105. Metcalfe 1961: 187. Prater 1965: 233. Ridley 1901: 106. Sonne-Hansen 1972. Strickland 1967: 9-10.

7.8.4 Defecation and urination

Andersen 1963. Banks 1978: 227. Borner 1979a: 94-101 (defecation), 101-105 (urination). Flynn 1978: 8 (scent-marking). Foenander 1952: 189 (sex determined by way of urinating). Hubback 1939a: 599 (sexual difference in urinating). Lang 1959. Prater 1939: 625. Schenkel & Lang 1969: 42. Sonne-Hansen 1972. van Strien 1974a: 42. Talbot 1960: 185. Thom 1935: 141, 1943: 272.

7.8.5 Dung heaps

Anon. 1935: 91. Ansell 1947: 252. Banks 1931: 20. Borner 1979a: 96-98. Foenander 1952: 188. Hubback 1939a: 609 (absence). Metcalfe 1961: 187. Peacock 1931: 448 (presence), 1933: 73 (up to 2 feet high). Prater 1939: 625, 1965: 233. Ridley 1901: 106. Strickland 1967: 12 (absence). Thom 1935: 141, Ullrich 1955.

7.8.6 Food

Anon. 1935: 91. Andersen 1963. Ansell 1947: 252. Banks 1978: 224. Borner 1979a:

75, 82-90 (methods, plants). Bruton 1963: 7. Coenraad-Uhlig 1933: 115. Evans 1905: 558 (plants). Flynn 1978: 7, 1981b: 23-27 (plants). Foenander 1952: 186 (plants). Guérin 1980: 178. Harrison 1974: 277. Hubback 1933 (flowers of Ashoka tree, *Saraca* sp.), 1939a: 603, 607-608 (plants, methods). Medway 1969: 103 (plants, methods). Metcalfe 1961: 188, 189 (plants). Pallegoix 1854: 156. Peacock 1931: 448 (methods), 1933: 73 (plants, methods). Prater 1939: 626, 1965: 233. Schenkel & Lang 1969: 42. Shortridge 1915: 773. Strickland 1967: 10-11, 16-17 (methods, plants). van Strien 1974a: 39-41, 69-72 (methods, plants), 1974b: 63. Talbot 1960: 186. Tate 1947: 353. Thom 1935: 142-143 (plants).

7.8.7 *Habitat*

Anon. 1935: 91. Ansell 1947: 252. Banks 1978: 224. Bickmore 1868: 509. Borner 1979a: 69-82. Bruton 1963: 6. Carter et al. 1946: 153. Delsman 1951: 16. Evans 1905: 557, 1912: 123. Flynn 1981b: 27. Foenander 1952: 183. Harrison 1964: 211, 1974: 278. Hose 1893: 63. Hubback 1939a: 599, 602. Loose 1975: 16. Lydekker 1907a: 39. Medway 1969: 103. Metcalfe 1961: 187. Mukherjee 1974: 343. E.E. Peacock 1931: 53 (at 5,000 feet). E.H. Peacock 1931: 447 (dense forest), 1933: 72 (forest clad hills). Prater 1965: 232. von Rosenberg 1878: 104 (at 6,000 feet). Schenkel & Lang 1969: 42. Schenkel & Schenkel 1980. Schinz 1824: 289. Selous n.d.: 184. Shebbeare 1953: 147. Shortridge 1915: 773. Strickland 1967: 12. van Strien 1974a: 35-37, 1974b: 62, 1977d: 2, 1978a: 16. Strugnell & Willbourn 1932: 19 (at 5,500 feet). Talbot 1960: 183. Tate 1947: 353. Thom 1935: 139 (seasonally determined), 1943: 266 (high altitude). Tjeenk Willink 1905: 201.

7.8.8 *Home range*

Borner 1979a: 138-145. Flynn 1978: 7, 1981b: 20 (density). Groeneveldt 1938: 107. Strickland 1967: 6-9. van Strien 1974a: 38.

7.8.9 *Horn rubbing*

Hubback 1939a: 609. Sonne-Hansen 1972.

7.8.10 *Longevity*

Bolau 1879: 110 (Hamburg zoo). Dover 1932: 87 (captivity, 10-35 years). Flower 1931 (captivity, records). Foenander 1952: 187. Medway 1969: 104 (captivity). Mitchell 1911a: 453 (captivity, 271 months). Reynolds 1961a: 33 (captivity).

7.8.11 *Movements and paths*

Anon. 1935: 91. Ansell 1947: 252. Banks 1978: 224. Borner 1979a: 112-115 (trails), 146-148 (movements). Bruton 1963: 7. Evans 1905: 557, 1912: 122. Foenander 1952: 185 (wandering). Heynsius-Viruly & van Heurn 1935: 42 (tunnels). Hubback 1939a: 601-602. Prater 1965: 233. Schenkel & Lang 1969: 42 (nomadism). Shortridge 1915: 773. Sonne-Hansen 1972 (path). Strickland 1967: 11-12 (trails). van Strien 1974a: 15-16, 38-39 (tracks, wandering), 1976e: 3. Talbot 1960: 186 (wandering). Thom 1935: 139, 141, 1943: 272. Wroughton & Davidson 1918: 475.

7.8.12 *Population structure*

van Strien 1976e: 3.

7.8.13 *Relations with men*

Bruton 1963: 7. Evans 1905: 555. Hagen 1881: 556. Heynsius-Viruly & van Heurn

1935: 42. Hose 1893: 63 (taming). Miller 1942: 162. Mohnike 1883: 442 (less dangerous than *R. sondaicus*). Müller & Schlegel 1845: 192. Ridley 1901: 106. Schneider 1906: 123. Selous n.d.: 184. van Strien 1974a: 45-47. Wood 1851: 756.

7.8.14 *Relations with other animals*

General: Strickland 1967: 10.

Elephant: Bickmore 1868: 509 (enmity unknown on Sumatra). Sclater 1872f. van Strien 1974a: 45.

Rhinoceros sondaicus: Borner 1979a: 78-79. Groves 1967a: 226 (ecological displacement).

Tiger: Borner 1979a: 74. Evans 1904: 161. Talbot 1960: 186.

7.8.15 *Resting*

Borner 1979a: 110. Krumbiegel 1965. van Strien 1974a: 44.

7.8.16 *Salt licks*

Borner 1979a: 90-93. Foenander 1952: 186. Medway 1969: 103. van Strien 1974a: 39.

7.8.17 *Senses*

Ansell 1947: 252. Banks 1978: 226. Hubback 1939a: 605. Prater 1965: 233. van Strien 1974a: 16. Talbot 1960: 186. Thom 1935: 140.

7.8.18 *Social relations*

Banks 1931: 19. Borner 1979a: 116-135. Bruton 1963: 7. Evans 1905: 557. Hagen 1890: 105. Hubback 1939a: 600. Medway 1969: 103. Mjöberg 1930: 11. E.H. Peacock 1931: 448. Schenkel & Lang 1969: 42. Schinz 1824. Shortridge 1915: 773. van Strien 1974a: 44-45. Tate 1947: 353. Wroughton & Davidson 1918: 475.

7.8.19 *Swimming*

Borner 1979a: 110. Evans 1905: 560. Foenander 1952: 183. Hubback 1939a: 604. Lydekker 1907a: 39. Pollok & Thom 1900: 166. Shortridge 1915: 773. van Strien 1974a: 16. Talbot 1960: 186.

7.8.20 *Territory*

Borner 1979a: 149-150 (male territory).

7.8.21 *Voice*

Evans 1904: 161, 1905: 559. Foenander 1952: 182. Hubback 1939a: 601, 606. Medway 1969: 103. Ridley 1901: 106. Sanyal 1892: 134. Schneider 1906: 123. Sonne-Hansen 1972. van Strien 1974a: 16-17. Thom 1943: 268, 271.

7.8.22 *Wallowing and bathing*

Anon. 1935: 91. Ansell 1947: 252. Banks 1978: 226. Borner 1979a: 105-109. Bruton 1963: 7. Christopher 1916: 227. Evans 1905: 557. Flynn 1978: 7. Foenander 1952: 187. Groeneveldt 1938: 107. Hubback 1939a: 600, 604. Medway 1969: 103. Mukherjee 1974: 343. E.H. Peacock 1931: 448. Prater 1965: 223. Ridley 1901: 106. Sonne-Hansen 1972. van Strien 1974a: 43-44. Talbot 1960: 184. Thom 1935: 139, 140.

7.8.23 *Weapons*

Banks 1978: 226. Evans 1904: 161. Foenander 1952: 190. Schinz 1824.

7.9. REPRODUCTION

7.9.1 *General reports*

Ansell 1947: 252. Hubback 1939a: 601. van Strien 1974a: 47-49.

7.9.2 *Gestation*

Asdell 1964: 534. Burton 1962. Cheminaud 1939: 87. Foenander 1952: 188. Groves & Kurt 1972: 3. Lekagul & McNeely 1977: 652. Medway 1969: 104. Peacock 1933: 74. Smith 1935: 48. Tate 1947: 353.

7.9.3 *Mating season*

Asdell 1964: 534. Brasser 1926: 104. Smith 1935: 48.

7.10 PARASITES

Bequaert 1933: 140-142 (Malaya, *Amblyomma infestum* and *Hyalomma walckenaerii*), Hubback 1939a: 605 (flies and ticks). Krygsmann 1933: 181 (nematode). Neumann 1901: 297 (*Amblyomma crenatum* from 'Sumatra' is probably African). Rochain & Bequaert 1918: 439 (*Gyrostigma sumatrensis*). van Strien 1974a: 45 (review). Zumpt 1962 (*Gyrostigma sumatrensis*), 1965 (review).

7.11 VETERINARY STUDIES

Antonius 1937 (lung tuberculosis, inflammation of intestines). Coenraad-Uhlig 1933. Krumbiegel 1965 (nephritis). Lang 1976: 169 (anaemia, Basel zoo). Poulsen 1973 (cirrhosis of liver). Schlawe 1969: 28 ('vereiterter Lunge'). van Strien 1974a: 45 (review).

7.12 MUSEUM SPECIMENS

General: Brandt 1878a: 42 (Parsons 1743, pl. 3 figs. 4, 5 pictures horn of *D. sumatrensis*). Brookes 1828: 75 (private museum, 7 lots). Hooijer 1946a: 16 (material in Dutch museums). Rookmaaker 1977c: 58-59 (specimens imported from Borneo in the 19th century).

Amsterdam, Artis zoo museum: Portielje 1940: 43 (stuffed specimen).

Bangkok, Siamese museum: S. Flower 1900: 366.

Bogor, museum: Dammerman 1937 (stuffed head).

Brussels, Muséum Royal d'Histoire Naturelle: Friant 1948: 4 (skeleton).

Calcutta, Asiatic Society of Bengal: Asiatic Society 1816. Blyth 1847a (skin of head received), 1847b (skeleton and skull of 2 specimens), 1862a: 163, 1863b: 137 (list of specimens). Cantor 1846: 263 (head).

Calcutta, Indian Museum: W. Slater 1891: 204.

Calcutta, Zoological Survey of India: Chakraborty 1972: 124.

Chicago, Field Columbia museum: Elliot 1907: 105 (male, donated Franklin).

Copenhagen, University Zoological museum: Skafte 1964, pl. 3 (hide, skeleton).

Dublin, Trinity College: Blyth 1875: 53 (skull, shot by Oldham - *Note*: probably

- belongs to *R. unicornis*; specimen still present).
- Kuching*, Sarawak museum: Harrison 1956: 269-270 (mounted foot, palang).
- Leiden*, Rijksmuseum van Natuurlijke Historie: Jentink 1887: 167, 1889: 25, 1892: 197. Loose 1975: 37.
- London*, British Museum (Natural History): Dollman 1928 (stuffed young, Perak). Gray 1862: 282, 1868: 1022. Groves 1965: 128. Loose 1975: 37. Mason 1882: 452 (2 skulls, Burma). Pocock 1928b (young, Perak).
- London*, Royal College of Surgeons: Flower & Garson 1884 (nos. 2141-2146). Gray 1868: 1022.
- London*, Zoological Society: Raffles 1830: 644 (one sent). Waterhouse 1838: 36 (one present).
- Madrid*, museum: Cabrera 1911: 140 (horn).
- Munich*, Zoologische Staatssammlung: Groves 1965: 128.
- New York*, American Museum of Natural History: Berger 1934: 97 (from Vernay 1933). Lang 1924c: 527 (2 specimens from Vernay, Burma).
- Pahang* museum: Hubback 1939a: pl. 1 (2 mounted heads).
- Paris*, Muséum National d'Histoire Naturelle: Cuvier 1836b, pl. 159, 160 (skull and skeleton sent by Diard and Duvaucel).
- Perak* museum: S. Flower 1900: 366 (heads).
- Philadelphia*, Academy of Natural Sciences: Miller 1942: 161 (no. 20242, Sumatra).
- La Rochelle*, Musée d'Histoire Naturelle: Groves 1967a: 235 (type *R. sumatrensis* G. Cuvier 1817).
- Singapore*, Raffles museum: Hanitsch 1908: 8 (1 stuffed animal, 2 skeletons). S. Flower 1900: 366.
- Vienna*, Naturhistorisches Museum: Groves 1965: 128.
- Washington*, United States National Museum: van Peenen 1969: 259 (no. 49561, Borneo).
- Zürich*, Eidg. Polytechnikum: Schneider 1906: 125 (skull and feet, Sumatra).

7. 13 EXHIBITION IN CAPTIVITY

7.13.1 *Review*

- Flower 1931 (longevity). Groves & Kurt 1972: 4. Grzimek 1960a: 23. Kourist 1969b: 8, 1973: 139. Krumbiegel 1960: 13. Reynolds 1961a: 33-40 (list of all specimens, ca. 55). van Strien 1974a: 49.

7.13.2 *General reports*

- Anon. 1967a (Kuala Lumpur zoo, wanted to catch 3 specimens but reconsidered after protest). Coenraad-Uhlig 1933 (Sumatra, young raised). Crandall 1968: 512. Hornaday 1885 (rhino offered on Singapore market for \$250). Hubback 1939a: 600 (Malaya, lived 7 years at 'To Raja Kiah'). Krumbiegel 1960: 12, fig. 1 (Ehlbeck circus, 1895 in Germany). Lapham 1964 (Sumatra expedition 1959). Skaife 1961, 1962, 1964 (Sumatra expedition 1959). Strickland 1968 (Kuala Lumpur zoo, against capture). Ullrich 1955 (Sumatra, young raised by Poser in 1928). Vernay 1924: 627 (Burma, young died en route to Rangoon). Census of rare animals. International Zoo Yearbook 6: 445, 7: 371, 8: 366, 9: 291, 10: 323, 11: 334, 12: 392.

7.13.3 *American circus*

- Conover 1959: 5 (Adam Forepaugh 1873). Noack 1886: 138 (from Hagenbeck to

Barnum and Bailey, 1885). Reynolds 1967a: 290, fig. 5 (Ringling, 1902), 1968a: 7 (several specimens 1872-1906), 1970: 8-11 (several specimens 1872-1890). Sclater 1872d (to circus 1872).

7.13.4 Zoological gardens

Amsterdam: Rookmaaker 1977c: 57 (arr. 1896). Sclater 1896 (arr. 1896 from Borneo). Swierstra 1888: 19 (arr. 1881).

Antwerp: Gijzen 1960: 16 (arr. 1879). Peel 1903: 61.

Bangkok: Blyth 1862a: 168 (living in 1860).

Basel: Andersen 1963 (1959-1961). Grzimek 1960a: 23 (arr. July 1959). Krumbiegel 1965. Lang 1959. Reynolds 1968a: 6 (arr. 1959). Schlawe 1961: 94 (arr. 1959).

Berlin: Heck 1896: 1020 (drawing by G. Mützel). Klös 1969a: 72 (in 1874). Schlawe 1969: 28 (1878-1880).

Bogor: Andersen 1963 (1959-1961). Krumbiegel 1965 (arr. 1959). Medway 1972 (arr. 1959).

Budapest: Anon. 1895 (from Perak).

Calcutta: Anderson 1883: 74 (2 present). Buckland 1889a, b (birth 1889). Flower 1931: 203. Sanyal 1892 (3 received). Sclater 1884 (arr. 1882).

Cologne: Kohle 1981: 104 (between 1863 and 1900; and ca. 1936).

Copenhagen: Anon. 1972g (died 1972). Andersen 1963 (arr. 1959). Krumbiegel 1965. Poulsen 1973 (died 1972). Reynolds 1968a (arr. 1959). Rookmaaker 1973a (died 24.II. 1972). Schlawe 1961: 94. Sonne-Hansen 1972 (1959-1972).

Hamburg: Bolau 1879: 110 (lived 4 years 2 months). Grzimek 1958: 120 (in 1886). Kourist 1969b: 8 (1872-1876), 1973: 139 (1872-1876, 1884). Noack 1886: 138 (mother and young to Barnum & Bailey circus, 1885). Noll 1873: 82 (in 1872). Rodhain & Bequaert 1918: 439 (no data). Sclater 1872c: 427 (in 1872), 1872d, 1873b (arr. 1872).

Leipzig: Anon. 1895 (one present). Rodhain & Bequaert 1918: 439 (no data).

London: Anderson 1872 (from Calcutta, 1872). Beddard & Treves 1889 (died 1885, 1888). Buckland 1872 (arr. 1872). Duncan 1892: 332 (arr. 1872). Flower 1908: 27, 1931: 203. Hood 1869 (captured 1867). Kourist 1973: 139 (1872-1900, 1886-1919). Loisel 1907: 16. Lydekker 1907a: 39 (arr. 1872). Manson 1876: 117 (captured 1867). Newman 1872a, c (arr. 1872). Noll 1873: 83 (arr. 1872). Scherren 1905: 160 (2 arr. 1872). Sclater 1872c, d, f (arr. 1872), 1876a: 651 (2 arr. 1872, 1875), 1878 (arr. 1878), 1879 (arr. 1879), 1885 (pair arr. 1885), 1886b: 266 (arr. 1886). Tun Yin 1967: 162 (1884-1886 from Bassein).

London, Docks: Bartlett 1873 (birth 1872). Noll 1873: 84 (birth 1872).

Madras: Flower 1914: 73 (arr. ca. 1890), 1931: 203.

Osaka: Sotani 1974 (arr. 1921).

Perth: Mayer 1922: 124-129 (caught Trengganu ca. 1902).

Philadelphia: Grzimek 1960a: 23 (2 died en route 1952).

Rangoon: Christopher 1916: 231 (one present). Flower 1914: 90 (arr. 1909). Tun Yin 1967: 162 (1909-alive in 1913).

Singapore (Botanic Gardens): Ridley 1901 (2 present), 1906: 161 (arr. 1875, 3 shipped to Vienna 1901). Wray 1905: 65 (captured in Dindings, sent to Singapore 1901).

Vienna: Antonius 1937 (1900-1908, 1902-ca. 1919). Boettger 1905: 376 (2 present). Giese 1962: 138 (2 present in 1902). Grzimek 1958: 120. Siedler 1905: 262 (2 seen, erroneously called *Rhinoceros bicornis*).

Washington: Baker 1896a, b (from Adam Forepaugh circus).

7.14 PHOTOGRAPHS

7.14.1 *Review*

van Strien 1974a: 72-73 (list of published pictures).

7.14.2 *Taken in the wild*

Ali & Santapau 1958b (Perak, as *R. sondaicus*). Borner 1979a, pl. 9 (photo Skafte, in wallow), pls. 2-8, 10-15 (rhino marks). Bruton 1963: 8 (photo Hubback). Foenander 1952, facing p. 177, 193 (photos Hubback). Grzimek 1958: 119 (photo G. Bazin, Perak). Hubback 1939a, b (photos made in Pahang). Khan 1962, 1971, pl. 42 (photo Game department, Malaya). Medway 1968b, pls. 9-11 (photo Game department, Malaya; track and rubbing marks). Metcalfe 1961, pl. 33 (photo G. Bazin, Perak). Peacock 1931 (male shot Shwe-U-Daung, 1930), 1933, pl. 6 (male shot Burma, 1930). Pfeffer 1963 (rhino in wallow, ?Borneo). Skafte 1961, 1962, 1964 (photos taken during Sumatra expedition 1959). Sody 1941, fig. 16 (photo Balai Poestaka, with 1 horn). Sumati 1976b: 6 (photo Milton, Malaya). Thom 1935, facing p. 137 (2 rhinos shot). Weatherbe 1939, facing p. 152, 155 (photos Hubback; tracks).

7.14.3 *Taken in captivity*

Copenhagen zoo: Borner 1974d. Groves & Kurt 1972, fig. 1 (photo Mohr). Hillenius 1971: 1461. Krumbiegel 1965, 6 figs. (6 photos 1964) Lukaszewicz 1962, fig. 2. Milton 1962, 2 figs. Reynolds 1968a, fig. 7 (photo Schlawe), 1970, fig. 4 (photo Mohr). Rookmaaker 1977c, pl. 4 (photo Schlawe 1961), 1982: 6. Schlawe 1961, 7 figs. Sonne-Hansen 1972, fig. 1. Stonehouse 1981: 64. van Strien 1974a: 5 (photo Mohr), 1978b. Tun Yin 1967 (photo Gee).

Basel zoo: Grzimek 1960a, fig. 2 (in 1959). Guggisberg 1966a, facing p. 129. Lang 1959. Lapham 1964: 66 (with Vikki Ryhiner). Sody 1959, fig. 13.

Bogor zoo: Medway 1972 (taken 1960), 1977, pl. 24b.

Other collections: Antonius 1937 (Vienna zoo). Christopher 1916, facing p. 228 (Rangoon zoo). Coenraad-Uhlig 1933, 5 figs. (Sumatra). Flower 1914, pl. 10 (Rangoon zoo). Jeannin 1962: 27 (unknown). Krumbiegel 1960, fig. 1 (Ehlbeck menagerie, drawing 1895). Lekagul & McNeely 1977: 656, 657. Reynolds 1970, fig. 3 (London, 19th century). Selous n.d.: 182, 188 (London, 2 figs.). Ullrich 1955 (Sumatra). Ullrich & Ullrich 1968: 253 (Sumatra).

7.14.4 *Photos of museum specimens*

Foenander 1952, pl. facing p. 192 (2 mounted heads). Groves 1967a, fig. 4 (5 skulls); 1971, figs. 14-17 (horns and heads). Harrison 1956, 1962 (horn Sarawak museum). Hubback 1939a, pl. 1 (2 mounted heads Pahang museum). Koffend 1974: 9 (mounted head, National museum Kuala Lumpur). Neuville 1927 (horns). Otto 1903, facing p. 138 (2 skulls, Sumatra). van Peenen 1969: 259 (Borneo skull). Prater 1965, pl. 55 (mounted head New York). Tun Yin 1967 (mounted animals New York).

CHAPTER 8

THE JAVAN RHINOCEROS, RHINOCEROS SONDAICUS

8.1 REVIEW

Hoogerwerf 1970. Loch 1937. Schenkel 1971. Schenkel & Schenkel 1969a. Sody (1941) 1959. Talbot 1960.

8.2 TAXONOMY AND NOMENCLATURE

8.2.1 *Revisions*

Brandt 1878a: 34-37 (*R. sondaicus* and *R. inermis*). Groves 1967a: 232-234 (*R. s. sondaicus*: Java; *R. s. floweri*: Sumatra; *R. s. inermis*, Sunderbans; other populations uncertain). Groves & Guérin 1980 (*R. s. floweri* synonymous with *R. s. sondaicus*, hence *R. s. sondaicus*: Java, Sumatra, Malaya; *R. s. inermis*: Sunderbans; *R. s. annamiticus*: Indo-China). Pocock 1946a: 309 (*R. s. sondaicus* and *R. s. inermis*).

8.2.2 *Remarks*

Blyth 1862a: 154-155 (existence of broad and narrow type in skulls, but variation not constant). Busk 1869: 413 (*R. nasalis*, *R. floweri* and '*R. stenorhynchus*' synonyms of *R. sondaicus*). Flower 1876: 450 (*R. floweri* and *R. nasalis* synonyms of *R. sondaicus*). Guérin 1980: 174-175 (differences between subspecies). Vageler 1927 (one-horned rhino shot by Hazewinkel on Sumatra is an -unnamed- 'völlig neue Varietät von *R. sondaicus*' - cf. Sody 1959: 162).

8.2.3 *Discovery by Petrus Camper*

Review: Rookmaaker & Visser 1982.

Remarks: de Blainville 1817: 165 ('*Rhinocéros de Camper*', possibly a variety of *R. sondaicus*). A.G. Camper 1809, 1811 (P. Camper's material from Java). P. Camper 1793 (distinction of 'beiden Asiatischen Gattungen von *Rhinoceros*'), 1803: 263 (Javan skull). Cuvier 1804b, 1812b, 1st pl. (Camper's Javan skull), 1836b, pl. 42 figs. 2, 4, 5 (skull, jaws of Javan specimen). Dawson 1958: 199 (letters by Camper to Banks 1786, 1787 about rhinoceros). Desmarest 1819: 243 (Camper's Javan skull). Geoffroy & F. Cuvier 1824. Gray 1868: 1009. Guggisberg 1966a: 114. Müller & Schlegel 1845: 183. Pallas 1780, pl. 9 (description of Javan skull parts). Schenkel & Schenkel 1969a: 98. von Schreber 1835: 309. Shaw 1800: 211 (Javan rhino figured by Pallas). Sody 1959: 131-132.

8.2.4 *Subspecies and synonyms of *Rhinoceros sondaicus**

Rhinoceros annamiticus Heude, 1892: 75, pl. XIXA figs. 1, 3, 4 (besides '*R. javanus*').

Type-specimen: 3 teeth figured by Heude 1892 (cf. Groves & Guérin 1980, fig. 4).
Type-locality: 'Cochin-chine' (Heude 1892).

Remark: Groves & Guérin 1980 (*R. sondaicus annamiticus* described as subspecies of Indo-China).

Taxon considered valid:

Rhinoceros annamiticus Heude 1892.

Rhinoceros sondaicus annamiticus; Groves & Guérin 1980.

Rhinoceros camperii Jardine, 1836: 181. Attributed to de Blainville 1817.

Type-specimen and type-locality: not designated.

Taxon considered valid:

Rhinoceros camperii Jardine 1836.

Rhinoceros camperis Griffith, [1826?] 1827: 290. Based on de Blainville 1817.

Type-specimen and type-locality: not designated.

Taxon considered valid:

Rhinoceros camperis Griffith 1827.

Rhinoceros floweri Gray, 1868: 1015, figs. 3, 4.

Type-specimen: Royal College of Surgeons of England, London, no. 2934.

Type-locality: Sumatra (Flower 1876: 450).

Remarks: Busk 1869: 413 (synonym of *R. sondaicus*). Flower 1876: 450 (synonym of *R. sondaicus*). Groves 1967a: 234 (Sumatra).

Taxon considered valid:

Rhinoceros floweri Gray 1868, 1869b. - von Martens 1876.

Rhinoceros sondaicus floweri; Groves 1967a. - Guérin 1980.

Rhinoceros frontalis von Martens, 1876: 257.

Remarks: Rookmaaker 1977c: 53 (lapsus for *R. nasalis*). Sody 1959: 168 (lapsus for *R. nasalis*).

Rhinoceros inermis Lesson, 1838: 514.

Type-specimen: Hornless female and young collected by Lamare-Picquot, first deposited in the Muséum National d'Histoire Naturelle, Paris (Geoffroy et al. 1831), in 1836 transferred to Berlin museum (Peters 1877). Skulls and skins of both specimens preserved in the Zoologisches Museum, Berlin, no. An. 10603 ('Typus' and 'Paratypus') - cf. Groves 1971, fig. 11.

Type-locality: Bengal.

Date: Groves 1967a: 234 (book dated 1840). Lesson 1842: 159 (mentions '*Rhinoceros inermis*, Lesson. Iles du Gange' without description). Pocock 1946a: 308 (Lesson's original description was not published until 1848). Note: I saw one copy of Lesson's book, in the library of the British Museum (Natural History), with the date 1838 on the title-page, a date also recorded by Brandt 1878a: 34 and Peters 1877.

Remarks: Brehm 1877: 514 (synonym of *R. unicornis*). Ellerman & Morrison-Scott 1951: 340 (nomen nudum). Gray 1843: 186 (synonym of *R. unicornis*).

Taxon considered valid:

Rhinoceros inermis Lesson 1838. - Brandt 1878a-c, 1879. Chenu & Desmarest 1858. Gervais 1855. Lesson 1842. Lydekker 1883. Peters 1877.

Rhinoceros sondaicus inermis; Sody 1941, fig. 17. - Groves 1967a. Groves & Guérin 1980. Guérin 1980. Kourist 1970. Pocock 1946a.

Rhinoceros javanicus Geoffroy-St. Hilaire & F. Cuvier, 1824: 2 ("Mon frère a donné à cette espèce le nom de *Javanicus*").

Type-specimen: not designated.

Type-locality: Java.

Remark: Sody 1959: 133 (on the use of *R. javanicus*).

Taxon considered valid:

Rhinoceros javanicus Geoffroy & Cuvier 1824. – Antonius 1914. Boitard 1842. Fromaget & Saurin 1936. Giebel 1855. Gloger 1841. Gray 1862, 1868, 1869b. Heck 1896. Jentink 1887, 1892. Lesson 1827, 1838. Lydekker 1880b, 1883. von Martens 1876. de Meyere 1894. Murray 1866. Oken 1838. Rainey 1878. Ridley 1901. Schlegel 1872. Vogt 1884.

Rhinoceros javanus Cuvier, 1829: 247.

Type-specimen: not designated.

Type-locality: Java.

Remark: Sody 1959: 133 (use of *R. javanus*).

Taxon considered valid:

Rhinoceros javanus Cuvier 1829. – de Blainville 1846. Cuvier 1836. Duvernoy 1854. Gervais 1855. Heude 1892. van der Hoeven 1855. Kaup 1833. Lenz 1835. von Martens 1850. Noll 1873. Schlegel 1857. von Schreber 1835.

Rhinoceros nasalis Gray, 1868: 1012, figs. 1, 2.

Type-specimen: British Museum (Natural History), nos. 723b (= 55.4.4.4) and 723c. Pocock 1945b, fig. 3A depicted mesopterygoid fossa of 723b.

Type-locality: 'Borneo' (Gray 1868).

Remarks: Busk 1869: 413 (synonym of *R. sondaicus*). Flower 1876: 450 (synonym of *R. sondaicus*). Groves 1967a: 234 (skull of *R. sondaicus*, possibly from Java). Medway 1977: 143-144 (skull from Java?). Rookmaaker 1977c: 53 (review).

Taxon considered valid:

Rhinoceros nasalis Gray 1868, 1869b.

Rhinoceros sondaicus Desmarest, 1822: 399.

Type-specimen: young animal sent to the Muséum National d'Histoire Naturelle, Paris by Pierre Diard and Alfred Duvaucel in 1821 (Desmarest 1822, Cuvier 1822: 24-27). Cuvier 1836b, pl. 55 figured the skeleton.

Type-locality: 'Sumatra' (Desmarest 1822: 399), changed in supplement to 'Java' (Desmarest 1822: 547).

Authorship: *R. sondaicus* was often attributed to Horsfield 1824.

Remarks: Gray 1868: 1009 (accepts type-locality Java). Groves 1967a: 233 (type-locality Java). Raffles 1830: 719 (lists skeleton of rhinoceros in 'List of specimens required by Messrs. Diard and Duvaucel'). Sody 1946, 1959: 157 (Sumatra is correct type-locality because Diard and Duvaucel collected together only on Sumatra, not on Java).

Taxon considered valid:

Ceratorhinus sondaicus; Steinmann & Döderlein 1890.

Rhinoceros sondaicus Desmarest 1822. – (Note: only 2 authors after 1900 use another name for the species; references until 1900 only are given) – Anderson 1889. Baker 1887. Ball 1877. Blanford 1891. Blyth 1862a, c, 1863b, 1872a, b, 1875. Brandt 1878a, b, c, 1879. Brehm 1877. Busk 1869. Cantor 1846. Chenu & Desmarest 1858. F. Cuvier 1825. Duncan 1892. Everett 1893. Falconer &

- Cautley 1847. Fischer 1829. Flower 1876, 1891. Flower & Garson 1884. Fraser 1875. Fyfe 1878. Gacbler 1883b. Garrod 1877a, b. Griffith 1827. Helfer 1838. Hooper 1910. Horsfield 1824, 1851. Jamrach 1875. Jardine 1836. Jentink 1895. Jerdon 1867. Lesson 1842. Mason 1882. Mohnike 1883. Müller & Schlegel 1845. Newman 1874. Nicholson & Lydekker 1889. Owen 1845. Pöppig 1851. Pollok 1879. Raffles 1830. Ridley 1895. Sanyal 1892. Schinz 1824 (for *sumatrensis*), 1845. Sclater 1872c, 1873a, 1874, 1876b, 1877. W. Sclater 1891. Sterndale 1884. Trouessart 1898. Ward 1896. Weinland 1862.
Rhinoceros sondaicus sondaicus: Groves 1967a. - Guérin 1980. Kourist 1970.
Rhinoceros (Rhinoceros) sondaicus: Zittel 1891. - Friant 1950. de Pousargues 1904. Wroughton 1921.
Rhinoceros sondaicus: Le-Viet-Du 1969.

8.2.5 *Lapsus in names*

- Rhinoceros javanensis*: Hazewinkel 1932: vii. Barnard 1932: 185. Gray 1868: 1022.
Rhinoceros sondaicus: Stracey 1949: 470.
Rhinoceros sondaicus: Bok 1940: 3, 4.
Rhinoceros sondaicus: Morice 1875. Cordes 1881. van Kampen 1911. Koningsberger 1902. Laufer 1914. Vageler 1927.
Rhinoceros sondaicus: Couperus 1887: 304.

8.2.6 *Lists of synonyms*

- Ellerman & Morrison-Scott 1951: 340. Hooijer 1946a: 34-37. Lydekker 1916: 48.

8.3 NAMES IN VERNACULAR

Burma: Ansell 1947: 250. Blanford 1891. Burkill 1935. Evans 1905: 555. Peacock 1933: 77. Smith 1935: 46. Tun Yin 1967: 154. Wroughton 1915: 698.

India: Blanford 1891. Higgins 1935: 304 (Manipuri). Lydekker 1900: 26 (Nagas). Prater 1965: 231.

Indo-China: Bordeneuve 1925: 40. Bourret 1927: 62. Deuve & Deuve 1964: 28. Gairdner 1919: 125. Ho-Van-Cam 1947. Millet 1930: 187. Morice 1875: 20.

Indonesia: van Balen 1914: 213. Sody 1959: 125. Tjeenk Willink 1905: 201.

Java: Müller & Schlegel 1845: 190. Raffles 1830: 644. Sody 1938: 763.

Malaya: Ansell 1947: 250. Blanford 1891. Burkill 1935. Harrison 1974: 276. Loch 1937: 141. Medway 1969: 103. Metcalfe 1961: 183. Raffles 1830: 644. Wroughton 1915: 698.

Sumatra: Coomans de Ruiter 1948-49: 155. Hagen 1890: 105. Miller 1942: 162.

Thailand: Gairdner 1915: 136, 1919: 125.

8.4 EXTERNAL MORPHOLOGY

8.4.1 *Appearance*

- Anon. 1935: 90. van Balen 1914: 212. Blanford 1891. Blyth 1872b: 3104. Boitard 1842: 405. Brandt 1878a: 36. Brehm 1877: 515. Bruton 1963. Carter et al. 1946: 151. Chenu & Desmarest 1858: 9. Crandall 1968: 506. Cuvier 1829: 247. Deuve & Deuve 1962: 99. Desmarest 1822: 399. Duncan 1892: 332. Fetherstonhaugh 1951a: 193. Flower 1900: 368. Foenander 1952: 180. Geoffroy & Cuvier 1824. Giebel 1855: 205. Grassé 1955: 1111. Guggisberg 1966a: 113. Hazewinkel 1932. Heck 1896: 1019. Horsfield 1824. Jardine 1836: 174. Kloss 1909: 36. Krumbiegel 1960: 13, 19.

Lekagul & McNeely 1977: 653. Lydekker 1907a: 35. Medway 1969: 103. Metcalfe 1961: 183. Mukherjee 1974: 342. Noll 1873: 54. Prater 1965: 231. Schinz 1824: 290. von Schreber 1835: 310. Smith 1935: 46. Sody 1959: 113. Stockley 1928: 100. Talbot 1960: 204. Tun Yin 1967: 154. Wood 1851: 755. Zeuner 1934: 32.

8.4.2 Colour

Blanford 1891. Flower 1900: 368. Koningsberger 1902: 60. Tjeenk Willink 1905: 201.

8.4.3 Foetus

Frechkop 1951 (with figures). de Meyere 1894: 375 (skin).

8.4.4 Footprints

Evans 1912: 560 (*R. sondaicus* larger than *D. sumatrensis*). Franck 1934: 77 (size). Harrison 1974: 276. Hoogerwerf 1950: 56 (size), 1970: 71, 83-85, 127 (size, method of measuring, individual variation). Kurt 1973: 67 (size). Lekagul & McNeely 1977: 652 (size). Schenkel & Schenkel 1969a: 127-129 (size). Sody 1936, 1937 (*R. sondaicus* larger than *D. sumatrensis*). van Strien 1978a (shape, size).

8.4.5 Hair

Cave 1969: 249. Groves 1967a: 222. Pocock 1914 (facial vibrissae absent, eye-lashes on upper eye lid). Sody 1959: 122. Tjeenk Willink 1905: 201 (young).

8.4.6 Horn

Franck 1935: 48. Groves 1971: 242. Neuville 1927.

8.4.7 Horn measurements

Dammerman 1937. Dollman 1928, 1937: 72. Franck 1934: 78 (Java). Groves 1971: 242, 246. Hoogerwerf 1970: 75. Koningsberger 1902: 60. Lydekker 1900: 27, 1907a: 35, 1907c: 73. Noll 1873: 54. O'Hara 1907: 385. Sody 1959: 116. Ward 1896: 283 (2 horns, Java).

8.4.8 Horn in female

Review: Groves 1971: 243-246.

Horn absent: Brandt 1878a: 36 (*R. inermis*). Dollman 1928. Fraser 1875 (Sunderbans). Geoffroy et al. 1831 (Sunderbans). Harmer 1921 (Tenasserim). Hazewinkel 1933 (Sumatra). Hoogerwerf 1970: 76 (Java, hump at most). Ho-Van-Cam 1947: 34 (Vietnam). Lamare-Picquot 1835: 58 (Sunderbans). Lydekker 1900: 27, 1907a: 26, 35, 1925: 178. de Monestrol 1925: 19 (Indochina). Neuville 1927: 189. de Pocins 1935 (Sunderbans). Rainey 1878 (Java, Sunderbans). Slater 1876b (Sunderbans). Smith 1935: 46 (Burma, often absent). Tate 1947: 354. Vageler 1927: 289 (Sumatra absent, Java small).

Horn present: Dollman 1932 (Malaya, rudimentary horn). Fischer 1829: 415. Kerkhoven 1926: 326 (Java, small horn). Schenkel & Schenkel 1969a: 130 (Java). Simon 1971 (both sexes same size horn).

8.4.9 Size

Anon. 1935: 90. van Balen 1914: 212. Blanford 1891. Blyth 1872b: 3104. Boitard 1842: 405. Brehm 1877: 515. Bruton 1963: 7. Chenu & Desmarest 1858: 9. Crandall 1968: 506. Desmarest 1822: 399. Finlayson 1950: 151. Franck 1934 (Java).

Guggisberg 1966a: 113. Harrison 1974: 276. Hazewinkel 1932: vii, 1933 (Sumatra). Hoogerwerf 1970: 74. Horsfield 1824. Jerdon 1867: 234. Koningsberger 1902: 60. Krumbiegel 1960: 19. Lekagul & McNeely 1977: 653. Noll 1873: 54. O'Hara 1907: 385. Prater 1965: 231. Schinz 1824: 205. von Schreber 1835: 313. Shekarea 1832: 314. Smith 1935: 46. Sody 1959: 116-119. Talbot 1960: 204. Tjeenk Willink 1905: 201. Wood 1851: 755.

8.4.10 *Skin*

de Meyere 1894 (foetus). Neuville 1927: 182.

8.4.11 *Age classes*

Schenkel & Schenkel 1969a: 126-129 (Ujung Kulon, based on footprints).

8.4.12 *Sexual dimorphism*

Guérin 1980: 157, 159 (female larger than male). Hoogerwerf 1970: 71 (female larger than male). Kerkhoven 1926: 327 (female larger than male). Pocock 1946 (marked external difference, slight difference in nasal bones).

8.5 ANATOMY

8.5.1 *General dissections*

Beddard & Treves 1887. Cave 1976b: 428 (history). Garrod 1877a. Grasse 1955: 1108-1118.

8.5.2 *Organs*

Brain: Mayer 1847: 61, pl. 7 fig. 2.

Caecum: Oppel 1897: 561.

Gall bladder: Oppel 1900: 977 (absent).

Intestines: Beddard 1902 (small intestine as taxonomic character). Oppel 1897: 561, 569.

Lymph: Cave & Aumonier 1964b (lymph node).

Pedal scent gland: Beddard 1902 (taxonomic character). Cave 1962a.

Reproductive organs: Disselhorst 1904: 317. Oudemans 1892: 57.

Stomach: Oppel 1896: 333.

Tongue: Sonntag 1922: 653.

8.6 OSTEOLOGY

8.6.1 *Skull*

Cave 1959: 2 (foramen ovale), 1965: 502 (lacrimal epiphysis). Chakraborty 1972 (occipital surface, foramen magnum, subaural channel). Finlayson 1950. Fraser 1875 (ossified nasal septum). Gray 1868: 1009. Groves & Guérin 1980: 203-204. Guérin 1980: 33-54. van der Maarel 1932: 73-75. Milne-Edwards 1868, pl. 13 (vertical section). Pocock 1944b: 834, fig. 1 (premaxillae), 1945a (nasal septum), 1945b, 1946c (nasal bones). Sody 1959: 121. Thenius 1955a (ossification of nasal septum).

8.6.2 *Skull measurements*

de Beaufort 1928. Blyth 1862a: 159. Carter & Hill 1942. Chakraborty 1972: 125.

Falconer 1868, I: 513, pl. 75. Gray 1868: 1032. Groves 1967a: 228, 236. Groves & Guérin 1980: 201. Guérin 1980: 48, 53, van der Maarel 1932 (16 skulls). Toula 1902.

8.6.3 Dentition

Beden & Guérin 1973: 23 (size). de Blainville 1846: 43-58. Boitard 1842: 405. Chenu & Desmarest 1858: 7. F. Cuvier 1825, I: 219, II, fig. 90. Finlayson 1950. Flower 1876. Groves 1967a: 228 (size). Groves & Guérin 1980: 201, 204 (size, characteristics). Guérin 1980: 54-73 (description, size). Heude 1892: 74-75. Hooijer 1946a: 9 (distinction from *D. sumatrensis*). 1962b (shape, size). Lydekker 1880b: 140. van der Maarel 1932: 73, 77-80 (terms used in description). Owen 1845: 587. Pallas 1780, pl. 9 figs. 2, 3. Patte 1934. Pocock 1945b, 1946c (structure of pm², variation according to age and locality). Sody 1959: 123. Vrolik 1830: 384. Zeuner 1934: 32.

8.6.4 Postcranial skeleton

Beden & Guérin 1973: 24-41 (measurements of bones). Clutton-Brock 1965: 10 (scapula). Cuvier 1822: 29-36. Franck 1934: 78. Giebel 1851 (comparison with *R. tichorhinus*). 1855: 205. Groves & Guérin 1980: 204-205 (description, size). Guérin 1980: 74-152 (descriptions and measurements of bones). Heller 1913: 13 (vertebral formula). Pouchet & Beauregard 1889: 198.

8.7 DISTRIBUTION AND STATUS

8.7.1 Review

Harper 1945. Sody 1959. Talbot 1960.

8.7.2 General reports

Anon. 1967h (status). Bruton 1963: 8. van Doren 1851: 224 (hunting). Guggisberg 1966a: 116. Harper 1945: 390 (status). Heck 1896: 1019. Krumbiegel 1960: 16. Loch 1937: 130. Lydekker 1907a: 37. Mukherjee 1974: 342 (map). Schenkel & Lang 1969: I. von Schreber 1835: 315. Sody 1959: 177 (status). Spinage 1962: 79 (map). Talbot 1960: 207 (map).

8.7.3 Bhutan

Kinloch 1904: 65 (Bhutan Duars).

8.7.4 Burma

Review: Harper 1945: 382. Sody 1959: 173. Tun Yin 1954b, 1967: 155.

Hunting: Pollok 1879, I: 95.

Legislation: Ansell 1947: 254-256. Tun Yin 1954b, 1967: 156.

'Burma' only: Anon. 1935: 90. Blanford 1891. Blyth 1862a: 151. Bourret 1927: 62. Carter et al. 1946: 151. Crandall 1968: 505. Dollman 1937: 72. Evans 1912: 122. Flower 1900: 368. Grzimek 1958: 118. Hanitsch 1908: 8. Jerdon 1867: 234. Kirk 1968: 150. Kloss 1927: 207. Lydekker 1892a, 1900: 27, 1925: 177. Polo 1958: 188 (unicorn in Mien). Prater 1965: 231. Selous n.d.: 182. Shebbeare & Roy 1948: 89. Sterndale 1884: 410. Stockley 1928: 101. Tate 1947: 354. Tjeenk Willink 1905: 203. Ward 1896: 283.

Records: Blyth 1862a: 169 (Shan hills east of Ava, may be one-horned). Burton 1951: 729 (virtually extinct). Evans 1905: 557 (upper and lower Burma, *D. sumatrensis* more frequent than *R. sondaicus*). Fytche 1878, I: 103 (Sandoway dt.). Hobley 1932 (Kahilu and Schwe-U-Daung reserves). Maliepaard & de Vos

1961: 95 (possibly in south). Milton 1961: 106 (status). Peacock 1931: 447 (Schwe-U-Daung, tracks $8\frac{1}{2}$ " diameter), 1933: 78-79 (Thaton, Salween and Mergui subdivisions, Victoria Point subdivision, possibly Kahilu reserve). Pollok 1879, I: 98 (into Arrakan). Reynolds 1954 (status). Smith 1935: 47 (Thaton, Salween and Mergui dts.). Thom 1943: 257 (R. sondaicus never personally observed). Tun Yin 1954b (now only *D. sumatrensis* reported).

Tenasserim: Anderson 1889: 333. Berg 1933: 122 (still 4 in Salween dt.). Blyth 1842: 448 (south of Ye), 1862c (Tavoy Point, skull), 1869c (Tavoy Point, skull), 1875: 51. Fitter 1968: 58. Groves 1967a: 224. Guggisberg 1966a: 119. Gyldenstolpe 1916: 51 (Bankachon, shot by Shortridge). Helfer 1838: 860. Loch 1937: 133 (Victoria Point, shot by Hubback 1920). Low 1836: 50, fig. 2 (species unclear). Mason 1882: 451. Milton & Estes 1963: 63. Schenkel & Schenkel 1969a: 99 (Hubback 1920). Shortridge 1915: 772 (Victoria Point, skull; *D. sumatrensis* and *R. sondaicus* equally numerous). Tate 1947: 354 (Thaton, 1943). Tun Yin 1954a: 83 (Kyaiktiyo hill, until ca. 1949, possibly *R. sondaicus*), 1954c: 302 (several areas in Tenasserim, species uncertain), 1955a: 257 (Tenasserim Yoma, N. Tavoy dt., shot Jan. 1954), 1967: 155 (localities in Tenasserim). Wroughton 1915: 698.

Kahilu Game Reserve: Ansell 1947: 264-266 (review, 'was one of the last refuges in Burma, on the evidence of the skulls'). Blandford 1939. Hubback 1939a: 161 (possibly *R. sondaicus*). Loch 1937: 133. Schenkel & Schenkel 1969a: 99 (in 1930). Thom 1935: 138 (6 specimens, almost certainly *R. sondaicus*), 1943: 257 (skull in Bombay natural history society). Weatherbe 1939 (*R. sondaicus*, doubtful).

8.7.5 China

All records on the distribution of the rhinoceros in China are given here while it is unknown what species (*R. sondaicus* or *R. unicornis* or *D. sumatrensis*) are involved.

Review: Jenyns 1955: 35-38. Laufer 1914: 106, 118, 133, 136, 149, 159, 160, 161-166. Rookmaaker 1980b: 259-260. van Strien 1974a: 25. Talbot 1960: 205.

Records: Allen 1940, II: 1279 (no evidence from south in historic times except vague reports). Bishop 1933: 326 (exterminated in north in 2nd century). Blyth 1862a: 151 (*R. sondaicus* or *D. sumatrensis*), 1872b: 3108, 1875: 51. Brandt 1878a: 37 (Kwangsi). Bushell 1904: 119 (Yunnan). Chang 1926 (former occurrence in north). Dapper 1670: 230 (Chucheufu, Suchuen). Duhalde 1736: 243 (Kwangsi). Erkes 1916: 64 (south, according to Huai-nan-tze, ca. 122 B.C.). Hubback 1939a: 596 (Mongle, 22° 30'N, 102° E., as *D. sumatrensis*). Imbert 1921: 220 (Kwangsi). Krumbiegel 1928 (middle and south China). Loch 1937: 145 (areas bordering Burma and Tonkin). Marshall 1900: 73. Richard 1908: 198, 206 (Kwangsi, Kwantung). Schenkel & Schenkel 1969a: 99 (formerly S.W. China). Sody 1959: 173 (one report from Hainan island). Sowerby 1939: 8 (China in Chou or Han dynasty). Sterndale 1884: 410 (W. province).

8.7.6 India and Bangladesh

Review: Harper 1945: 381-382. Mukherjee 1974: 343. Rookmaaker 1980b: 254-258. Sody 1959: 174-177. Talbot 1960: 204-205.

Hunting: Baker 1887: 279. Simson 1886: 188-192.

Legislation: Bengal government 1932.

'India' only: Anon. 1935: 90. Carter et al. 1946: 151. Dollman 1937: 72. Duncan 1892: 332. Hanitsch 1908: 8. Kirk 1968: 150. Noll 1873: 54. Sclater 1872c: 426. Tate 1947: 354. Ward 1896: 283.

Records: Ball 1877: 170 (Jerdon's record of Mahanadi river incorrect, maybe based

on captive animal). Blanford 1891. Blyth 1862a: 151 (Rajmahal hills), 1872b: 3107 (old records from continental India refer to *R. sondaicus*), 1875: 50 (Garó hills; eastern and lower Bengal). Brandt 1878a: 37 (Rajmahal hills). Burton 1951 (Chittagong). Cockburn 1883: 63 (Garó, Khassia and Naga hills). Flower 1900: 368 (Assam, Sikkim, Bengal). Gee 1948b: 64 (Sona Rupa, Assam, *R. sondaicus* or *D. sumatrensis*). Groves 1967a: 224 (localities). Grzimek 1958: 118. Higgins 1935: 304 (*R. Khuga* 1913; lower valley of *R. Barak*; Lushai hills). Inglis et al. 1919: 825 (Jalpaiguri dt.). Jerdon 1867: 234 (near Calcutta; Rajmahal hills; along Mahanuddy river, Orissa). Loch 1937: 132. Lydekker 1892a (Assam), 1900: 27 (Assam, Sikkim, Chittagong, Bengal), 1907a: 36 (Sikkim), 1925: 177 (Assam, Bengal). Milroy 1935: 102 (Bengal Dooars). Murray 1866: 338 (Rajmahal). Pollok 1879, I: 98 (Assam, Garrow hills, Sylhet, Tipperah, Chittagong). Prater 1965: 231. Schenkel & Schenkel 1969a: 99 (Assam). Shebbeare 1935: 1229 (Bengal), 1953: 141 (Assam south of Brahmaputra; Bengal; Sikkim; Rajmahal hills until 1850). Shebbeare & Roy 1948: 89 (Chittagong). Sterndale 1884: 410 (localities). Stockley 1928: 101 (Assam, Sikkim). Stracey 1949: 470 (Assam until 1874). Wood 1930: 60, 69 (Tipperah, Sylhet, Lushai).

Sunderbans: Baker 1887: 279-284 (1 shot). Blyth 1862a: 151, 1863a: 156, 1872b: 3106 (1 shot 1860), 1875: 50. Brandt 1878a: 37. Burton 1951 (extinct 1892). Flower 1900: 368. Foenander 1952: 180 (lower Brahmaputra, until ca. 1890). Gee 1964: 157 (until 1900). Groves 1971: 243 (localities). Guggisberg 1966a: 118. Kinloch 1904: 65. Lamare-Picquot 1835: 54-60. Lydekker 1892a, 1925: 177. Maliepaard & de Vos 1961: 95. Murray 1866: 338. de Poncins 1935 (around Pizum Khalee river, 1892). Schenkel & Schenkel 1969a: 99. Selater 1876b (Ray Mangal river, captured 1876). Selous n.d.: 182. Shekara 1832 (Saugor island). Simson 1886: 188 (seashore). Stockley 1928: 101.

8.7.7 Indochinese region

All records on the distribution of the rhinoceros in the Indochinese countries are listed here, both referring to *R. sondaicus* and to *D. sumatrensis*.

Review: Guggisberg 1966a: 105, 120. Harper 1945: 384-387 (many localities). Loch 1937: 142-145. Rookmaaker 1980b: 260-264. Sody 1959: 172-173. van Strien 1974a: 25. Talbot 1960: 179.

Hunting: Fraisse 1955: 111-112. Millet 1930: 189. Mouhot 1864: 147.

'Indo-China' only: Blyth 1863a: 156. Bock 1884: 294. Carter et al. 1946: 151, 153. Crandall 1968: 505. Foenander 1952: 183. Hubback 1939a: 594. Imbert 1921. Kirk 1968: 250. Medway 1969: 103. Schenkel & Schenkel 1969a: 99. Shebbeare 1953: 145. Street 1961: 108, 110. Strickland 1967: 1. Tate 1947: 354.

General records: Blyth 1862a: 168. Borner 1979a: 66. Borri 1633, cap. 4 (hunt in Cochín-China). Bourret 1927: 62. Chochod 1950: 92. Crawford 1828: 478. G. Grandidier in Sauvaire 1930: 246 (*R. sondaicus* and *R. unicornis*). Fraisse 1955: 113 (species *hêt* and *sou*, *R. sondaicus* and *R. unicornis*). Groves 1967a: 223 (*D. sumatrensis* practically unknown, *R. sondaicus* from several areas). Groves & Kurt 1972: 2 (2 reports for *D. sumatrensis*). Laurie & Olivier 1977: 660 (two species). McNeely & Laurie 1977 (all countries, *R. sondaicus*). Maliepaard & de Vos 1961: 95, 97 (no reports). Millet 1930: 187 (localities). de Monestrol 1925: 19-21, 81 (one-horned only, '*R. indicus*'). Patte 1934: 778 (two species). de Pousargues 1904: 535 (Cambodia to Cochín-China, *R. sondaicus*). Roussel 1913: 251-256 (all countries, 4 seen; Suoi-Ghia-Nhan). Sauvaire 1930: 131, 135 (*D. sumatrensis* near coast, *R. sondaicus* in mountains). Strickland 1967: 1 (*D. sumatrensis*).

Kampuchea (Cambodia): Anon. 1963c (status). Brandt 1878a: 37. Bordeneuve 1925: 40 (localities). Fitter 1968: 58 (status, *D. sumatrensis*). Garnier 1873: 222 (left bank of Mekong). McNeely & Laurie 1977 (south). Mouhot 1966: 70 (west). Moura 1883, I: 66. Murray 1866: 338. Pelliot 1902: 166, 169 (Cambodia according to Tchou Ta-kouan, Yuan dynasty). Quiroga de San Antonio (1604) in Cabaton 1914: 94. Simon 1966, 1967. Stöner 1925 (Angkor Vat).

Laos: Boutin 1937: 114 (prov. Houa-Phan). Cheminaud 1939. Colonna 1938: 112 (prov. Saravane, not seen since 1930). da Cruz (1569-70) in Boxer 1953: 77. Delacour 1940: 56 (Lao-Bao, Nong-het, *D. sumatrensis*; south, *R. sondaicus*). 1966: 95, 114 (Quang Tri, 1920's; Nonghet, skull *D. sumatrensis*). Deuve & Deuve 1962 (localities 1900-1961), 1964: 28 (localities for *R. sondaicus*; other species probably absent). Fraisse 1955: 111-112 (Chup, Dak Rao, Mam Ray). Gyldenstolpe 1919b: 170 (two-horned). Mouhot 1864: 147-148 (Louang Prabang, possibly *R. sondaicus*-cf. Hubback 1939a: 596). Neese 1975, 1976a, b (localities on Laos/Cambodia border, *R. sondaicus*). Sauvaire 1930: 143-149 (Xiang-Khouang 1896). Simon 1967 (north in 1960's, *R. sondaicus*).

Vietnam: Brentjes 1973: 254 (Chinese knew 'one-horn' from N. Vietnam). Carletti (1701) 1964: 159. Constable 1982: 250, 253 (Dalat, 1963; Blao). Deveria 1880: 41, 88 (horns to China). Ho-Van-Cam 1947: 34 (*R. sondaicus* and *D. sumatrensis*). Le-Viet-Du 1969 (*R. sondaicus* disappeared). Milne Edwards 1896 (Bien Hoa, skull to Paris Natural History museum, *R. sondaicus*). Morice 1875: 20-43 (one-horned), 1876: 32, 37, 42 (Phuquoc island, legendary animal; near Tay Ninh). Nguyen-van-Hiep 1963 (localities, 2 species). van Peenen 1969: 260 (localities, 2 species). Pham-hoang-Hô 1968: 407. Phily 1934: 283 (*R. sondaicus* killed for horn). Prater 1965: 232 (*D. sumatrensis*). Sauvaire 1930: 135 (lac Mercier, 1904).

8.7.8 Java

Review: Guggisberg 1966a: 121-123. Harper 1945: 388-390. Hoogerwerf 1970: 48-52. Sody 1959: 125-157.

Hunting: van Balen 1914: 214, 217. de Beauvoir 1870: 49-58. Epp 1852: 380. Franck 1935: 45. Kerkhoven 1926: 328. Roorda van Eysinga 1843.

Legislation: Basjarudin 1967. van Bommel 1969: 70-73 (in 1930's). Hoogerwerf 1970: 58-62 (review). van Imhoff 1888: 479 (premium for killing rhino in 1747, withdrawn 1749). Kerkhoven 1916: 367. Olivier 1916: 156.

Records: Appelman 1930: 583 (Bantam, Preanger), 1934 (Karangnoenggal 1918, Tasikmalaya 1934). Blume 1825: 59 (Gedeh), 1845 (Mt. Kendang 1822). Boie 1832: 117 (Tjitarem). Brongersma 1937: 250 (Slamat, formerly further eastward). Buddingh 1859: 61 (Mt. Kendang). Buys 1900: 173 (Mt. Galoenggoeng absent). van der Chijs 1889: 289 (*R. Craoan* 1661). Cordes 1881: 103-104 (Mt. Slamet is eastern boundary, strays in Ngawen dt. and Kediri residency). Couperus 1887: 304 (rarely east of Slamet). Dammerman 1929b: 7 (status). Docters van Leeuwen 1933: 74 (formerly Mt. Pangrango). Epp 1852: 357 (Slamat). Franck 1935: 50 (between Tjikandang and Tjikaingan). Gelpke 1838: 61, 69 (Nusakambangan island 1834). van Gorkum 1865: 250 (Tangkoeban-Præoe). Groves 1967a: 224. de Haan 1911: 31 (Oetan badak). Haeckel 1901: 121 (Gedeh, Salat). Harmer 1922: 16 (status). Hazewinkel 1936: ii (Tasikmalaya 1934). Heynsius-Viruly & van Heurn 1935: 43, 46. van Hoëvell 1860 (Tjermei). Horsfield 1824 (Tangung, Priangan). van Imhoff 1888: 479, 598 (1746-1747 60 rhinos killed; 1747-1749 526 rhinos killed). Jagor 1866: 206 (Slamat most eastern locality). Junghuhn 1866: 236 (Tji-Ikal).

Kerkhoven 1916: 368 (Preanger river). Koningsberger 1902: 1 (S.W.). Loch 1937: 141 (Tasikmalaia; Bantam). Lörzing 1917: 83 (Patoeka). Maliepaard & de Vos 1961: 94 (Preanger). von Martens 1876: 257 (Preanger). Müller & Schlegel 1845: 187, 189 (Tjikau, Mt. Malabar). Nagel 1828: 45, 1829: 76 (Tjerimai). van Oort & Müller 1833: 85, 87, 116, 134 (Tangkoembang Prahee, Tjeloktok, Mt. Patoeka, in Preanger). Reinwardt 1822: 34 (Mt. Papandayang, Mt. Talaga Bodar). Roorda van Eysinga 1831, II: 407 (Salak). P. Roorda van Eysinga 1843: 95 (Preanger 1821). Schenkel & Schenkel 1969a: 99 (Preanger). Talbot 1960: 205 (status). Taman 1961 (R. Bantam). Verhuell 1836: 125 (Mt. Pontianak). Veth 1882: 303 (Gedeh).

Ujung Kulon National Park: Anon. 1963c (status); 1971f (animal seen); 1972b, c, 1973g, 1974c, 1977b (status). Adams 1861: 7328 (Mew Bay, many tracks). Ammann 1979a, b, 1980 (status). Angst 1973 (one seen in 1970). Basjarudin 1968: 390, Bernard 1930 (poaching). Bruton 1963: 8. Coolidge 1964: 33. Dollman 1937: 72 (status). Fitter 1968: 58, 1974b: 72 (status). Franck 1935. Geroudet 1968. Grzimek 1958: 119, 1960a: 25 (status). Guggisberg 1966a: 125 (status). Hoogerwerf 1937 (animals seen, poaching), 1938: 86 (protection), 1939a, 1946: 206, 1950: 55-58 (status), 1954: 224 (status), 1970: 63-69 (poaching), 70-72 (status), 153-156 (protection). Kerkhoven 1926: 326. Kirk 1968: 150. Koesnadi 1961: 114. Laurie & Olivier 1977: 660. Loch 1937: 141. Maliepaard & de Vos 1961: 94. Moss et al. 1981 (status). Pfeffer 1958: 130. Prater 1965: 231. Ripley 1966: 148. Schaurte 1968: 285. Scheygrond 1973. Schenkel 1971, 1979, 1980. Schenkel & Schenkel 1968a, b, 1969a: 97, 1970b, 1972b, 1974, 1975, 1977, 1978, 1980 (status). Schenkel et al. 1978 (management). Shebbeare 1953: 146. Somberg 1968 (one seen). Stonehouse 1981: 64. Street 1961: 108. Taman 1961. de Voogd & Siccama 1939: 51 (poaching in 1935-36). WWF 1967, 1968, 1971a, 1972.

8.7.9 Malaya

Review: Harper 1945: 386. Loch 1937: 135-140 (10 records 1816-1932, most west coast, one Pahang). Metcalfe 1961: 185. Sody 1959: 169-171.

Hunting: O'Hara 1907. See also at *D. sumatrensis*, 7.7.7.

'Malaya' only: Anon. 1851, 1935: 90. de Beaufort 1926: 60. Blanford 1891. Blyth 1863a: 156, 1875: 51. Brandt 1878a: 37. Cantor 1846: 262. Carter et al. 1946: 151. Chasen 1940: 207. Crandall 1968: 505. Dammerman 1924: 342, 1929a: 34. Delsman 1951: 80. Duncan 1892: 332. Flower 1900: 368. Hanitsch 1908: 8. Jerdon 1867: 134. Kirk 1968: 150. Kloss 1906: 148, 1909: 36. Lydekker 1892a, 1900: 27, 1925: 177. Medway & Balasingan 1968: 465. Murray 1866: 338. Prater 1965: 231. Raven 1935: 261. Ridley 1895: 161, 1901: 105. Slater 1872c: 426, 1873a: 140. Sterndale 1884: 410. Selous n.d.: 182. Stockley 1928: 101. Tate 1947: 354. Ward 1896: 283.

Records: Barbour & Allen 1932: 145 (Pinjih valley 1899, Kuala Serukoi 1924). Barnard 1932 (R. Palawan 1898, Batu Gaja 1897, unidentified). Bequaert 1933: 137 (Teluk Anson, Perak). Berger 1934: 97 (not found by Vernay). Blyth 1862a: 152 (9 killed in south). Burgess 1935: 250 (1 shot by Barnard 1901-02), 1951 (ulu R. Seduli, Johor). Comyn-Platt 1937a: 48 (Perak only). Dollman 1937: 72 (status). Enriquez 1927: 73 (Taiping, Perak 1925). Fetherstonhaugh 1951a. Flower 1900: 367 (localities). Foerander 1952: 180 (Perak 1932; uncertain in Pahang 1891). Groves 1967a: 224 (localities). Grzimek 1958: 118 (Bernam, Perak ca. 1930). Guggisberg 1966a: 120 (west only). Harrison 1974: 276 (west coast; Pinjih valley, Perak 1874). Hislop 1968: 278 (absent). Hubback 1926: 39, 40 (lower Perak). Kloss 1927 (Pinjih valley, Perak 1899; Kuala Serukoi, Perak 1924), 1931 (R. Pelawan, Perak, shot by H.C. Barnard 1898; Ujong Permatang, Selangor 1927). Koffend 1974: 10 (Perak 1932).

Maliepaard & de Vos 1961: 94 (possibly extinct). Medway 1969: 103 (formerly Prov. Wellesley, Perak, Pahang, Selangor; tracks Johor 1949). Morris 1936 (not seen). Schenkel & Schenkel 1969a: 99 (Malaya 1932). Scott 1975 (extinct ca. 1945). Shebbeare 1953: 146 (ulu Bernam, Perak). Strickland 1967: 1, 3 (Perak, last shot 1932; formerly R. Dusun, Selangor). Wycherley 1969: 146 (last shot 1932).

Note: Picture taken on Lima Bilas oil estate, Slim River, Perak in 1958, thought to represent *R. sondaicus*, shows a *D. sumatrensis*-see 7.7.7.

8.7.10 *Sumatra*

Note: All reports in which the species is not explicitly stated to be *R. sondaicus* are listed under *D. sumatrensis* (7.7.8).

Review: de Beaufort 1928. Franck 1935: 49. Guggisberg 1966a: 115, 117, 121. Harper 1945: 387. Heynsius-Viruly & van Heurn 1935. Hoogerwerf 1970: 47. Hooijer 1945: 249-252, 1946a: 6-9. Loch 1937: 141. Sody 1959: 157-167. Talbot 1960: 205.

Hunting: Volz 1912. See also *D. sumatrensis*, 7.7.8.

Legislation: Basjarudin 1967. van Bemmelen 1969: 70-73. Hoogerwerf 1970: 58-62. Olivier 1916: 156.

'Sumatra' only: Barbour & Allen 1932: 145. de Beaufort 1926: 60. Blanford 1891. Blyth 1842: 449, 1875: 51. Brandt 1878a: 37. Busk 1869: 415. Carter et al. 1946: 151. Chasen 1940: 207. Crandall 1968: 505. Dammerman 1929b: 34. Delsman 1951: 80. Desmarest 1822: 399. Flower 1876: 450. Flower 1900: 368. Gray 1868. Griffith 1827: 290. Hagen 1890: 105. Hanitsch 1906: 8. Kirk 1968: 150. Kloss 1927: 207. Lydekker 1892a, 1900: 27, 1925: 177. Maass 1917: 231. Marsden 1811: 116. Medway 1969: 103. Noll 1873: 54. Prater 1965: 231. Raven 1935: 261. Robinson & Kloss 1923: 317. Selater 1872c: 426. Selous n.d.: 182. Shaw 1800: 200. Shebbeare & Roy 1948: 89. Sowerby 1930: 218. Sterndale 1884: 410. Tate 1947: 354. Tjeenk Willink 1905: 203. Ward 1896: 283.

Absence stated: van Bemmelen 1915: 92. Blyth 1862a: 152. Dammerman 1924: 342. Harmer 1922: 16. Jentink 1895. van Kampen 1911: 551. Temminck 1835: viii.

Records: Anon. 1937b: 560 (Lampung). de Beaufort 1928 (250 km S.W. Palembang). Carpenter 1938: 62 (localities in Aceh). Coomans de Ruiter 1948-49: 156 (S. Sumatra doubtful). Dollman 1937: 72 (status). Groves 1967a: 224 (localities). Grzimek 1958: 118 (exterminated in 1934). Hamerster 1926: 39 (R. Koealoe). Hazewinkel 1932 (7 shot in S. Sumatra), 1933 (Ogan and Kommering ulu, Palembang residency, 7 shot 1925-26). Heynsius-Viruly & van Heurn 1935: 43, 46 (Palembang; Aceh). Hoogerwerf 1939b: 282 (Aceh), 1954: 224 (last shot 1934). Hoogerwerf & van Steenis 1936: 52 (Way Kambas, Lampung). Kremer 1922: 193 (Aceh). Kurt 1973: 68 (map; possibly in Gunung Leuser N.P.). Lekkerkerker 1916: 93, 109 (Aceh). Maliepaard & de Vos 1961: 94. Miller 1942: 161 (Aceh, near west coast). Neumann 1885: 123 (R. Pane, R. Bila). Schenkel & Schenkel 1969a: 99 (reports 1925-1930), 1972b (possibly in Gunung Leuser N.P.). Scheygrond 1971: 43, 1972: 201 (Gunung Leuser N.P., uncertain). Schilling 1952, fig. facing p. 49 (Gajohlanden, incorrectly identified as *D. sumatrensis*). Simon 1966, 1967, 1971 (status). van Strien 1974a: 18 (Gunung Leuser N.P. uncertain). Vageler 1927 (south). Volz 1912: 236, 239, 243 (Goldberg, Aceh, shot 1904). WWF 1972 (Gunung Leuser N.P.).

8.7.11 *Thailand*

Review: Harper 1945: 383. Sody 1959: 171-172.

'Thailand' only: Bourret 1927: 62. Brandt 1878a: 37. Carter et al. 1946: 151. Crandall 1968: 505. Dollman 1937: 72. Flower 1900: 368. Hatting 1967: 156, 164. Kirk 1968: 150. Murray 1866: 338. de Pousargues 1904: 548. Schenkel & Schenkel 1969a: 99. Suvatti 1950: 587. Tate 1947: 354.

Records: Bradley 1876: 95, 122, 183, 201 (R. MacNam 1869-70, once as one-horned). Cheminaud 1939: 87-94 (Xieng Sen, one shot). Deuve & Deuve 1962: 101 (Xieng Sen, one caught 1938). W.W. Fegan in Loch 1937: 133 (near Three Pagodas, Meklong, Krabin prov.). Gairdner 1915: 136 (Rathuri and Petchaburi dts., two names). Groves 1967a: 224 (localities). Gyldenstolpe 1914: 29 (R. sondaicus more common than *D. sumatrensis*), 1916: 51, 1919b: 170 (south and along western frontier; erroneously recorded under *D. sumatrensis*). Kloss 1927: 207 (between Tenasserim and Malaya). Lekagul 1963 (Karnchanaburi dt. seen 1958-1961), 1968: 267 (south). Lekagul & McNeely 1977: 653. Low 1836: 44 (Keddah, unidentified). McNeely & Cronin 1972 (still possibly Tenasserim, Krabi and Trang provinces). McNeely & Laurie 1977 (Tenasserim 1976, vague reports from south).

8.7.12 *Unlikely reports*

8.7.12.1 Borneo

Presence of *R. sondaicus* on Borneo was often asserted; reviewed by Harper 1945: 389, Loch 1937: 145, Medway 1977: 144, Rookmaaker 1977c and Sody 1959: 167.

Presence stated: Bartlett 1874: 499. Blanford 1891. Blyth 1862a: 151, 152, 1863a: 157, 1863b: 137, 1875: 50. Brandt 1878a: 37. Busk 1869: 415. Deuve & Deuve 1962: 100. Flower 1900: 368. Flower & Lydekker 1891: 405. Frechkop 1951: 1. Gray 1868: 1012. Hanitsch 1908: 8. Harper 1945: 389. Jerdon 1867: 234. Lydekker 1892a, 1900: 27, 1907a: 35, 1925: 177. Mohnike 1883: 420. Müller 1840: 39. Noll 1873: 54. Raven 1935: 261. Slater 1872c: 426, 1873a. W. Slater 1891: 203. Selous n.d.: 182. Sowerby 1930: 218. Sterndale 1884: 410. Tjeenk Willink 1905: 203. Wallace 1876, II: 213. Ward 1896: 283. Weinland 1862: 128. Wroughton 1921: 311.

Absence stated: Everett 1893. Flower 1876. Jentink 1884, 1895. Murray 1868a.

8.7.12.2 New Guinea

Presence asserted by Meyer 1875 and Walker 1875 (dung seen). Discussed by Harting 1875. Denied by Heptner 1960 and Sody 1959: 168.

8.7.12.3 Sulawesi (Celebes)

Basjarudin 1968: 392 (presence in Bati Murung, Celebes).

8.7.12.4 Sumba islands

Mertens 1930: 24 (Lombok, Sumbawa, and Flores).

8.7.13 *Prehistoric occurrence*

General: Hooijer 1946a: 38-81; 1946b (evolution of skeleton pleistocene to recent), 1949 (evolution of skeleton, Java and Sumatra).

Indo-China: Arambourg & Fromaget 1938: 793 (*R. sumatrensis* holocene, *R. sivalensis* quaternary). Beden & Guérin 1973: 19-46 (Cambodia, Phnom Loang, description of *Rhinoceros sondaicus guthi*). Beden et al. 1972: 113-114 (Cambodia, Phnom Loang, pleistocene remains referred to '*Rhinoceros sondaicus guthi* Guérin 1972'). Fromaget & Saurin 1936 (neolithic). Groves & Guérin 1980: 206 (review). Guérin 1980: 170 (comparison of recent *R. sondaicus* with *R.s. guthi*). Guérin & Mourer 1969 (Cambodia, neolithic). Patte 1934 (Vietnam, uncertain species).

Java: Bok 1940: 3-5 (pleistocene). Dammerman 1934a: 232, 1934b: 479, 482 (Sampung cave, 1000 B.C.). Dubois 1908: 1245, 1258 (Kendeng fauna, description of *Rhinoceros sivasondaicus*). Hooijer 1946a: 54 (*R. sivasondaicus* synonym of *R. sondaicus*). van der Maarel 1932: 75 (*R. sivasondaicus* indistinguishable from recent *R. sondaicus*). Sody 1946 (Hooijer's suppression of *R. sivasondaicus* incorrect).

Malaya: Hooijer 1962a (Perak, pleistocene), 1962b (Kelantan).

Sri Lanka: Deraniyagala 1946: 165 (Ratnapura beds, middle pleistocene, description of *Rhinoceros sondaicus simplissimus*).

Sumatra: Hooijer 1945 (M² dext.), 1948 (N. Sumatra, M² sin.).

Thailand: Hatting 1967: 156, 164 (*R. Kwae Noi*, neolithic).

8.8 ECOLOGY AND BEHAVIOUR

8.8.1 Review and field work

Hoogerwerf 1970: 54-57. Schenkel & Schenkel 1969a, summarized in Schenkel 1971, Schenkel & Lang 1969, Schenkel & Schenkel 1969c, d. Sody 1959: 178-209. Tun Yin 1967: 154.

8.8.2 Activity pattern

Bruton 1963: 7. Ridley 1895: 161. Schenkel & Lang 1969: 37-38. Schenkel & Schenkel 1969a: 117-118, 120-121. Sody 1959: 200-201. Thom 1935: 139.

8.8.3 Associations

Bruton 1963: 7. Coomans de Ruiter 1948-49: 153. Couperus 1887. van Doren 1851: 223. Evans 1905: 557. Franck 1935: 41. Higginson 1890: 69. Hoogerwerf 1949, 1970: 95-96. de Monestrol 1925: 21. Müller 1840: 39. Müller & Schlegel 1845: 189. de Poncins 1935: 854. Schenkel & Lang 1969: 36. Schenkel & Schenkel 1969a: 121. Sody 1959: 196-197.

8.8.4 Defecation and urination

Hoogerwerf 1952, 1970: 87-94. Schenkel & Lang 1969: 41 (ritualised). Schenkel & Schenkel 1969a: 114-117 (ritualised; possibly sexual difference).

8.8.5 Dung heaps

Franck 1935: 43. Hoogerwerf 1952 (occasionally large heaps). Schenkel & Lang 1969: 40. Schenkel & Schenkel 1969a: 114 (different individuals, little ritual). Sody 1936: 242 (Sumatra), 1959: 205-208. Thom 1935: 139 (Burma, no heaps). Wood 1930: 61.

8.8.6 Food

Anon. 1935: 90 (browser). van Balen 1914: 213. Bruton 1963: 7. Delsman 1951: 81. van Doren 1851: 223. Epp 1852: 357. Evans 1905: 558 (plants). Franck 1935: 42. van Gorkum 1865, 1868 (kina). Guérin 1980: 179. Guggisberg 1966a: 123. Hoogerwerf 1937: 77, 1950: 57 (eating methods), 1970: 104-114 (methods, list of plants). Kerkhoven 1926: 326. Koningsberger 1902: 60. Müller & Schlegel 1845: 189. de Poncins 1935: 853 (methods). Prater 1965: 231. Schenkel & Lang 1969: 38 (plants, methods). Schenkel & Schenkel 1969a: 107-112 (feeding behaviour, plants). Schenkel et al. 1978. Sody 1959: 201-205. Talbot 1960: 212. Thom 1935: 138-139 (plants). Wood 1930: 61. Zeuner 1934: 32.

8.8.7 *Habitat*

Anon. 1935: 90 (hills). van Balen 1914: 213. Blanford 1891. Blyth 1875: 51. Bruton 1963: 6. Carter et al. 1946: 152. Couperus 1887. Delsman 1951: 81 (hills). van Doren 1851: 222. Evans 1905: 557 (mountains). Guggisberg 1966a: 123 (mountains). Harrison 1974: 278 (grassy plains). Higginson 1890: 69. Hoogerwerf 1970: 54-57, 87. Jagor 1866: 206 (high altitude). Kerkhoven 1926: 326. Lydekker 1892a, 1907a: 36, 1925: 178 (high altitude). Millet 1930: 188. de Monestrol 1925: 20. Müller 1840: 39. Müller & Schlegel 1845: 185. Prater 1965: 231. Reinwardt 1823: 36 (high mountains). Ridley 1895: 161 (up to 4,000 feet). Schenkel & Lang 1969: 36. Schenkel et al. 1978. Selous n.d.: 183. Smith 1935: 47. Sody 1959: 178-181. van Strien 1978a: 16. Talbot 1960: 206-211. Volz 1912: 372 (mountains). Zeuner 1934: 32.

8.8.8 *Longevity*

Flower 1931 (in zoos). Hoogerwerf 1970: 73-75, 210. Mitchell 1911a: 453 (maximum in captivity, 130 months).

8.8.9 *Movements and paths*

Ammann 1980 (daily distance). Bruton 1963: 7. Delsman 1951: 81 (tunnels). Epp 1852: 357 (path). Evans 1905: 557 (wandering). Franck 1935: 46. Hoogerwerf 1937: 76 (path), 1970: 78 (physical capability), 86 (gait), 96 (wandering). Kerkhoven 1926: 326 (path). Millet 1930: 188. Müller 1840: 39 (path). Schenkel & Lang 1969: 38 (locomotion), 40 (path). Schenkel & Schenkel 1969a: 118-120 (path, locomotion), 122-123 (reasons for nomadism). Schenkel et al. 1978: 256. Sody 1959: 120, 181-184.

8.8.10 *Population structure*

Groves 1971: 245 (sex ratio). Hoogerwerf 1970: 127-129 (structure, sex ratio). Schenkel & Schenkel 1969a: 126-130 (age classes, sex ratio).

8.8.11 *Relations with men*

van Balen 1914: 213. Bruton 1963: 7. Couperus 1887. Delsman 1951: 81. Evans 1905: 555. Giebel 1855: 206. van Gorkum 1865, 1868. Higginson 1890: 69. Hoogerwerf 1949, 1970: 97-103. Jagor 1866: 207. Kerkhoven 1916. Kloss 1927: 208. Müller & Schlegel 1845: 186. Ridley 1895: 161. Schenkel & Lang 1969: 37. Schenkel & Schenkel 1969a: 123-126. Sody 1959: 184-196. Volz 1912: 372. Wood 1851: 756.

8.8.12 *Relations with other animals*

General: Evans 1905: 555. Hoogerwerf 1970: 96-97. Sody 1937: 728, 1959: 192, 209.

Other rhino species: Börner 1979a: 78 (ecological displacement).

Tiger: Sody 1959: 192. VerHuell 1836: 125 (tiger eating dung). de Vries 1682: 1200 (tigers accompany rhino to use dung as medicine-cf. Hoogerwerf 1950: 55 and 3.7.5).

Ungulates: Franck 1935: 41-42. Schenkel & Lang 1969: 37.

8.8.13 *Salt licks*

Schenkel & Schenkel 1969a: 114.

8.8.14 *Senses*

de Monestrol 1925: 20. Talbot 1960: 211.

8.8.15 *Social behaviour*

Hoogerwerf 1949 (fights).

8.8.16 *Swimming*

Evans 1905: 560. Hoogerwerf 1949. de Poncins 1935: 855. Sody 1959: 121.

8.8.17 *Territory*

Guggisberg 1966a: 123. Schenkel & Schenkel 1969a: 122 (absence of territorial behaviour). Talbot 1960: 211.

8.8.18 *Voice*

Hoogerwerf 1937: 77, 1970: 79-83. Müller & Schlegel 1845: 188. Pollok 1879, I: 96 (at death). Schenkel & Lang 1969: 41. Schenkel & Schenkel 1969a: 121. Sody 1959: 123-124.

8.8.19 *Wallowing and bathing*

Bruton 1963: 7. van Balen 1914: 213. Coomans de Ruiter 1948-49: 153 (mud bath). Franck 1935: 43. Hoogerwerf 1949 (mud bath), 1970: 115-126. Müller & Schlegel 1845: 186. Schenkel & Lang 1969: 40 (wallow). Schenkel & Schenkel 1969a: 112. Sody 1936: 243 (mud bath). Thom 1935: 139 (mud bath).

8.8.20 *Weapons*

Kerkhoven 1926: 326 (teeth). Lydekker 1907a: 36. Smith 1935: 46 (teeth). Sody 1959: 120, 208 (horn, teeth).

8.9 REPRODUCTION

van Balen 1914: 216 (birth season September or August). Hoogerwerf 1970: 129-152 (rut, mating season, gestation, postnatal behaviour). Kerkhoven 1926: 326 (mating season possibly September). Lamare-Picquot 1835: 61 (taste of milk). Lekagul & McNeely 1977: 652, 654 (gestation, oestrous, sexual maturity). Müller & Schlegel 1845: 189 (birth season, birth interval). Schenkel & Schenkel 1969a: 130 (life cycle). Sody 1959: 196-200 (gestation, birth).

8.10 PARASITES

Bequaert 1933: 137-138 (Malaya, horse flies *Tabanus brunneus*, and *Amblyomma crenatum*). Garrod 1877b (Sunderbans, *Plagiotaenia gigantea*). Kraneveld & Keidel 1956 (Java, *Amblyomma crenatum*). Lamare-Picquot 1835: 61 (aptères). Zumpt 1965: 200, 201 (review, e.g. *Amblyomma*, *Anoplocephala*, *Kiluluma*).

8.11 MUSEUM SPECIMENS

Review: Barbour & Allen 1932. Loch 1937: 147.
Adelaide, South Australian museum: Carter & Hill 1942. Finlayson 1950 (one animal). Groves 1971, fig. 9.
Amsterdam, Zoological museum: Hooijer 1946a: 37.
Bogor, Museum: Coolidge 1964: 34.
Bombay, Bombay Natural History Society: Thom 1943: 257. Weatherbe 1939: 150.
Brussels, Institut Royal des Sciences Naturelles de Belgique: Frechkop 1951.
Calcutta, Asiatic Society of Bengal: Asiatic Society 1816. Blyth 1862a: 162, 1862b, c, 1863b: 137.

- Calcutta*, Indian museum: Blyth 1872b: 3106, W. Schlater 1891: 203.
Calcutta, Zoological Survey of India: Chakraborty 1972: 124, Groves 1967a: 235.
Delft, Ethnologische verzameling: Catalogus 1888 (species uncertain).
Groningen, University: A. Camper 1809: 80, 1811: 19 (from P. Camper).
Halle, Museum: Giebel 1855: 205 (skeleton and mounted skin).
Kuala Lumpur, Fed. Malay States Police Mess: Kloss 1931.
Leiden, Rijksmuseum van Natuurlijke Historie: Hooijer 1946a: 37, Jentink 1887: 167, 1892: 197, Toulou 1902: 16 (2 skulls, formerly attributed to *D. sumatrensis*-cf. Hooijer 1945: 8).
Leiden, G. Vrolik: Dusseau 1865: 160 (2 skulls 'Rhinoceros indicus, Java'), Vrolik 1830: 389.
London, British Museum (Natural History): Dollman 1932, 1937: 72, Gray 1862: 281-282, 1868: 1009, Groves & Guérin 1980: 203.
London, Royal College of Surgeons of England: Flower & Garson 1884 (nos. 2129-2139).
London, Royal Society: Rookmaaker 1978b: 31 (possible skin acquired in 17th century).
Lyons, Muséum d'Histoire Naturelle: Groves & Guérin 1980: 203, Guérin & Mourer 1969: 50, Morice 1875: 43.
Malaya, Mrs. Barnard: Kloss 1931.
New York, American Museum of Natural History: Carter & Hill 1942.
Paris, Muséum National d'Histoire Naturelle: Groves & Guérin 1980: 203, de Poussanges 1904: 535, Rookmaaker & Visser 1982: 131.
Perrak, Museum: S. Flower 1900: 366.
Selangor, Museum: Kloss 1927, 1931, S. Flower 1900: 366 (unlabelled skull).
Shanghai, Heude Museum: Carter & Hill 1942.
Strasbourg, Musée de L'Institut de Géologie: Gillet et al. 1957: 67.
Utrecht, Zoological Museum: Hooijer 1946a: 37.
Vienna, Naturhistorisches Museum: Antonius 1937, Rookmaaker 1973c: 58.

Epithetum hirsut. juv. - both = A. Capelle, Java 1822
 8.12 EXHIBITION IN CAPTIVITY *only 1 was identified, 1822*
→ Rookmaaker 1958: 352.

8.12.1 Review

Grzimek 1960a, Guggisberg 1966a: 117-118, Kourist 1970, Krumbiegel 1960: 13, Reynolds 1961a: 30-33 (list of known specimens), 1968a: 5.

8.12.2 Keeping within shallow moat

Epp 1852: 381, Sody 1959: 120, VerHuell 1836: 125.

8.12.3 Travelling circuses and menageries

Huguet: Kourist 1973: 149 (Stuttgart 1847-1848), von Martens 1850: 107-110 (from Sumatra, Paris, Brussels, Stuttgart in 1848).

Liverpool rhinoceros: identified as *R. unicornis*; but cf. Blyth 1872a, 1875: 50 (skeleton in Guy's Hospital, Southwark is *R. sondaicus*).

Montgomery Menagerie, U.S.A.: Anon. 1879 (on ship Colon between New York and San Francisco in 1877), Reynolds 1968a (ca. 1877), 1970: 10 (possibly *D. bicornis*).

8.12.4 Private menageries

Batavia: van der Chijs 1889: 289 (female, 1661).

- India, Chittepour*: Lamare-Picquet 1835: 61.
Java: Bontius 1642, 1658 (often seen in cages). van Goens 1856: 313 (Royal Palace, Mataram, some rhinos in 1656). Horsfield 1824 (in 1817). Merklein (1672) 1930: 13 (animal lived some days in 1647-repeated by von der Behr 1689: 30 and Saar 1672: 19).
Orissa: Ball 1877: 170 (kept by Rajah in Barpali - as *R. sondaicus*).
Oudh: Sanyal 1892: 131 (King of Oudh, 1877-1887, to Calcutta).
Surakarta: Grzimek 1958: 120 (in 1811).

8.12.5 Zoological gardens

- Adelaide*: Cleland 1969: 25 (in 1886). Finlayson 1950 (1885-1907). S. Flower 1931: 202.
Amsterdam: Nieuwendijk 1970: 96 (in 1867, species uncertain).
Bangkok: Cheminaud 1939: 83 (arr. 1938 from Laos). Loch 1937: 134 (ca. 1886).
Calcutta: Dover 1932: 87 (lived over 14 years). S. Flower 1931: 202 (lived over 14 years). Noll 1889 (in 1887-88). Sanyal 1892: 131 (arr. 1887, from King of Oudh).
 16 *Sclater* 1876r (May 1876, lived 24 hours). Wood-Mason 1875: 229 (died 2 December 1875).
London, William Jamrach: Garrod 1877a, b (anatomy). Sclater 1877 (from Sunderbans).
London, Zoological Society: Dover 1932: 87 (longevity 11 years). Flower 1931: 202 (1874-1885). Kourist 1969a (2 pictures ca. 1884). Newman 1874 (arr. 1874). Rookmaaker 1982: 6 (1874-1885). Scherren 1905: 162 (arr. 1874). Sclater 1874 (arr. 7 March 1874 from Java).
Madras: O'Hara 1907 (caught in Dindings, Malaya; to Perak, sold to Singapore and then to Madras).
Marseilles: Eversmann 1861 (arr. 1857). Krumbiegel 1962 (arr. 1857). Sacc 1861 (formerly 11 years in travelling menagerie).
Vienna: Antonius 1937 (animal collected by Scholl, died en route ca. 1788). Rookmaaker 1973c: 58.

8.13 PHOTOGRAPHS

8.13.1 Taken in the wild

- Angst 1973: 389 (young animal in Ujung Kulon). Appelman 1934 (2 figures of animal shot by Franck in West Java, 1934 - reproduced by Sody 1941, figs. 1, 2). Hazewinkel 1932, pls. 1-4, 1936: i (animal shot in South Sumatra-reproduced by Brentjes 1978, fig. 11; Sody (1941, fig. 14) 1959, fig. 11; Vageler 1927, figs. 1, 2). Hoogerwerf 1949, 1970: pls. 20-26, 30-41 (pictures taken in Ujung Kulon N.P. of animals, tracks and excrements - some reproduced by Bruton 1963: 7; Delsman 1951, fig. 40; Guggisberg 1966a, facing p. 129; Lekagul & McNeely 1977, fig. 227; Reynolds 1968a, fig. 5; Somberg 1968: 4; Sumati 1976b: 6; Tun Yin 1967; and Ullrich & Ullrich 1968: 252). Schenkel 1971: 159, 160, 185 (pictures taken in Ujung Kulon N.P. - reproduced by Lekagul & McNeely 1977, fig. 228; Schenkel & Lang 1969, figs. 10, 11; Schenkel & Schenkel 1969a, figs. 3, 8 and 1969d: 762). Schenkel 1971: 186-187 (colour picture by E. Schumacher - reproduced by Schenkel & Schenkel 1968a, pl. 3). Schilling 1952, pl. facing p. 49 (photo G.L. Tichelman, labelled as Sumatran rhinoceros). Sody 1959, pl. 5 (animal shot in Preanger - reproduced by Brentjes 1978, fig. 10). Volz 1912, fig. 101 (head of female shot in North Sumatra).

Note: Hoogerwerf made, besides his photographs of the rhinos in the Ujung Kulon N.P., also a movie of some 15 minutes duration, which I saw once during a lecture by Hoogerwerf, possibly around 1972. (Location of the film since Hoogerwerf's decease in 1977 is unknown.)

8.13.2 *Taken in captivity*

Kourist 1969a (2 photos by T.J. Dixon taken in London zoo, between 1874 and 1884 – reproduced also by Kourist 1976: 105, 107 and Rookmaaker 1982: 6).

8.13.3 *Photos of museum specimens*

Carter & Hill 1942: 2. Groves 1971, figs. 9-13. Kloss 1927, pl. 5; 1931, pl. 6 (see Sody 1941, fig. 17). Lekagul & McNeely 1977: 655.

CHAPTER 9

THE INDIAN RHINOCEROS, RHINOCEROS UNICORNIS

9.1. REVIEW

Gee 1948-1964 (especially 1953a, b, 1964). Lang 1961b. Laurie 1978b, 1982. Reynolds 1961a. Ullrich 1964.

9.2 TAXONOMY AND NOMENCLATURE

9.2.1 *Remarks*

Blyth 1862a: 154-156 (broad and narrow types in skulls). Chenu & Desmarest 1858: 9 (the "rhinoceros de Camper" is this species). Zeuner 1952: 130 (prehistoric material from Langhnaj, Gujarat possibly referable to a subspecies distinct from surviving forms).

9.2.2 *Subspecies and synonyms of Rhinoceros unicornis*

Rhinoceros asiaticus Blumenbach, 1797: 126.

Type-specimen: not designated. Blumenbach 1797: 126 referred to Blumenbach 1796, pl. 7 fig. B depicting a skull of *R. sondaicus* first in the possession of Petrus Camper (Rookmaaker & Visser 1982) and later sent to Paris where it was figured by Cuvier 1812a: 1st plate, 1836b, pl. 42 fig. 2.

Type-locality: 'Ost-Indien' (Blumenbach 1797).

Taxon considered valid:

Rhinoceros asiaticus Blumenbach 1797. - Fischer 1814.

Rhinoceros unicornis bengalensis Kourist, 1970: 151. Possibly proposed conditionally, referring to specimens intermediary between *R. unicornis* and *R. sondaicus* in N.E. India, as figured by Jardine 1836, pls. 7, 8; the paintings by Longhi of 1751 and the specimen in Berlin zoo from 1874.

Remarks: Blyth 1872a: 403 (drawing in India House, folds between Indian and Javan species). Kourist 1974: 543 (additional evidence).

Taxon considered valid:

Rhinoceros unicornis bengalensis Kourist 1970. - Kourist 1976.

Rhinoceros indicus Cuvier, 1816: 239.

Type-specimen: not designated.

Type-locality: 'Indes orientales, surtout au delà du Gange' (Cuvier 1816).

Taxon considered valid:

Ceratorhinus indicus; Steinmann & Döderlein 1890.

Rhinoceros indicus; Cuvier 1816. - Ali 1927a. Baker 1887. Baldwin 1883. Beavan 1865. Beddard 1902. Blyth 1842, 1862a, 1863b, 1872a, b. Boitard 1842. Bolau 1893, 1900. Brookes 1828. Cap 1854. Cockburn 1883. Cuvier 1829, 1836a.

Desmarest 1822. Duvernoy 1854. Forbes 1881. Gaebler 1883b. Garrod 1873. I. Geoffroy 1842-43. Gloger 1841. Griffith 1827. Heck 1896. Helfer 1838. Hodgson 1826a, 1844, van der Hoeven 1855. Jardine 1836. Jentink 1887, 1892. Jerdon 1867. Kaup 1833. Krauss 1851. Lesson 1827, 1838. Lukin 1883. Lydekker 1880a, b, 1881, 1883. Mayer 1852a, 1854. Murie 1870. Newman 1874. Owen 1845. Patte 1934. Pearson 1840. Pöppig 1851. Schinz 1824, 1845. Schlegel 1857, von Schreber 1835. Slater 1864b. Vogt 1884. Weinland 1862.

Rhinoceros jamrachi Jamrach, 1875.

Type-specimen: female rhinoceros imported by Jamrach in 1874 to London, and exhibited in Berlin zoo from 1874 (still living in 1884). Specimen unknown; Barbour & Allen 1932: 147 ("specimen in the Museum of Comparative Zoology may be the lost type with the formal locality 'Java' added").

Type-locality: 'Mooneypoor' (Jamrach 1875), i.e. Manipur, N.E. India.

Authorship: Name generally attributed to Slater 1876a: 650 note 3 where he mentioned that William Jamrach "in October 1874 printed an account of the supposed new species on a sheet of green paper, and proposed to call it *R. jamrachii*".

Remarks: Barbour & Allen 1932: 147 (is *R. sondaicus*). Groves 1967a: 234 (is *R. sondaicus*). Groves & Guérin 1980: 206 (is *R. unicornis*). Klös 1969a: 72 (is *R. unicornis*). Reynolds 1961a: 23, 1961c (is *R. unicornis*). Rookmaaker 1977a (is *R. unicornis*). Schlawe 1969: 28 (is *R. unicornis*). Slater 1876a: 645 (is *R. sondaicus*), 1880: 420 (is *R. unicornis*).

Taxon considered valid by Jamrach 1875 only.

Rhinoceros unicornis var. *sinensis* Laufer, 1914: 159, proposed for the Chinese single-horned rhinoceros (Chinese: se).

Remark: Rookmaaker 1980b: 260 (preoccupied by *R. sinensis* Owen, 1870).

Taxon considered valid by Laufer 1914 only.

Rhinoceros stenocephalus Gray, 1868: 1018, figs. 5, 6.

Type-specimen: British Museum (Natural History), no. 722e = 1846.3.23.4, received from the Zoological Society of London. Pocock 1945b, fig. 2A (figured mesopterygoid fossa).

Type-locality: 'Asia' (Gray 1868) as specimen was unlocalised.

Remarks: Busk 1869: 413 (synonym of *R. sondaicus*). Flower 1876: 450 (synonym of *R. unicornis*).

Taxon considered valid by Gray 1868, 1869b only.

Rhinoceros unicornis Linnaeus, 1758: 56, referring to Jonston 1655: 98, Bontius 1658: 50, Bergen 1746, Gessner 1551 and Aldrovandi 1621 (see Rookmaaker 1981: 114).

Type-specimen: not designated.

Type-locality: 'Africa, Asia' (Linnaeus 1758). Ellerman & Morrison-Scott 1951: 339 (probably the sub-Himalayan tarai of Assam). Lydekker 1916: 48 (sub-Himalayan tarai of Assam). Rookmaaker 1980b: 258 (preferred Lydekker's restriction over that of Thomas). Thomas 1911: 156 (Bengal).

Remarks: Pocock 1944a (*R. unicornis* refers to the great Indian one-horned rhinoceros). Rookmaaker 1980b: 258, 1981: 114 (Linnaeus confused different species in his description).

Taxon considered valid:

Ceratotherium bicornis; Asdell 1964.

Rhinoceros indicus unicornis; Noll 1876 - Keller 1909. Laufer 1914.

Rhinoceros unicornis Linnaeus 1758. - (Note: this combination was generally used after 1900, with few exceptions) - van Berkhey 1784, de Blainville 1846. Blanford 1891. Blumenbach 1788. Bolau 1879. Brandt 1878a-c, 1879. Brehm 1877. Burchell 1817. Cantor 1846. Chenu & Desmarest 1858. Cuvier 1798. Dryander 1796. Duncan 1892. Fischer 1829. Flower 1876, 1891. Flower & Garson 1884. Flower & Lydekker 1891. Friedel 1872a. Frisch 1775. Garrod 1877b. Gervais 1855. Giebel 1851, 1855. Gmelin 1789. Gray 1821, 1843, 1846, 1862, 1869b. Hodgson 1834. Hooper 1910. Horsfield 1851. Houttuyn 1761. Kerr 1792. Kinloch 1885. Lacépède & Daudin 1802. Layard 1861. Lesson 1842. Lenz 1835. Lydekker 1893. Mohnike 1883. Murray 1866. Nicholson & Lydekker 1889. Noll 1873. Oken 1838. Otto 1788. Owen 1852. Pander & d'Alton 1821. Paul 1893. Pollok 1879. Sanyal 1892. Schinz 1824. Schlegel 1872. Slater 1872c, 1873a, 1887. W. Slater 1891. Shufeldt 1893. Strack 1819. Swierstra 1888. Trouessart 1898. Ward 1896. Wood 1851. Wunderlich 1892.

Rhinoceros unicornis unicornis; Kourist 1970, 1976.

Rhinoceros (Rhinoceros) unicornis; Zittel 1891. - Friant 1950. Wroughton 1921.

9.2.3 *Lapsus in names*

Rhinoceros stenorhynchus, Busk 1869: 413 for *stenocephalus*.

Rhinoceros unicornu, Boddaert 1785.

9.2.4 *Lists of synonyms*

Brandt 1878a: 38. Ellerman & Morrison-Scott 1951: 339. Hooijer 1946a: 81-83.

Lydekker 1916: 47-48. Murray 1866: 338.

9.3 NAMES IN VERNACULAR

Blanford 1891 (Bengali, Hindi). Benveniste 1929: 376 (etymology). Blyth 1862b: 198 (Arabic, sanscrit, modern Indian languages). Das & Mukherjee 1974: 83 (Assamese, Hindi). Mukherjee 1963: 45 (Assamese, Bengali, Hindi, Nepali). Prater 1965: 229 (Hindi, Marathi). Sanyal 1892: 130 (Bengali, Hindi). Wilson 1836: 51 (Bengali, Persian, Sanscrit). Yule & Burnell 1903: 363 (Sanskrit, Hindi).

9.4 EXTERNAL MORPHOLOGY

9.4.1 *Appearance*

Anon. 1835-36. Barth 1747. Blumenbach 1788: 136, 1797: 126. Blyth 1872b: 3105. Boddaert 1785: 162. Boitard 1842: 404. Brandt 1878a: 38. Brehm 1877: 514. Buffon & Daubenton 1764: 180-186, 198-210. Burton 1962: 208. Crandall 1968: 505. Cuvier 1829: 247. Desmarest 1819: 240. Desmarest 1822: 397. Deuve & Deuve 1962: 99. Duncan 1892: 330. Faujas-St. Fond 1809: 193-197. Figuiet 1869: 413. Geoffroy & F. Cuvier 1820. Giebel 1855: 206. Gray 1868. Guggisberg 1966a: 131. Harper 1945: 375. Heck 1896: 1018. Huet 1808: 37. Jardine 1836: 164-171. Krumbiegel 1960: 19. Lang 1961b: 386, 403 (different types). Laurie 1978b: 58-60 (terminology of folds), 1982: 308. Lenz 1835: 326. Lydekker 1892a, 1907a: 28, 1925: 117. Maliepaard & de Vos 1961: 90. Marx & Koch 1910: 163. Mayer 1847: 60. Noll 1873: 48. Oken 1838: 1194. Parsons 1743: 529-536. Pocock 1946b: 310. Prater 1965: 229. Reynolds 1971: 12. Sander 1779. Schinz 1824: 287. von Schreber 1835: 299-303. Shaw 1800: 198.

Shebbear & Roy 1948: 90. Strack 1819, pl. 76. Talbot 1959, 1960: 187. Tun Yin 1967: 151. Williamson 1807: 44. Wood 1851: 755. Zeuner 1934: 30.

9.4.2 *Colour*

Blanford 1891. Guggisberg 1966a: 132. Marx & Koch 1910. Noll 1873: 49. von Schreber 1835: 303. Wood 1851: 755.

9.4.3 *Footprints*

Laurie 1978b: 74. Hoogerwerf 1970: 139, 142. Pocock 1912. Schenkel & Schenkel 1969a: 128.

9.4.4 *Hair*

Cave 1969: 249, 253, 254 (body hair, eye lashes, absence of facial vibrissae). Groves 1967a: 222. Sander 1779.

9.4.5 *Horn*

Anon. 1870 (shedding). Blyth 1869b (forward inclined horn), 1870b (shedding). Bolau 1900 (abrasion). Gee 1964: 155 (abrasion). Groves 1971: 241-242. Hill 1958 (irregular horn growth midway between horn and forehead). Lang 1961b: 370, fig. 3 (small additional horns, e.g. New York zoo on forehead). Lubach 1868 (second horn). Lydekker 1900: 22. Mohr 1957. Neuville 1927: 196-198, fig. 3 (keratinisation of epidermis). Oldfield 1880: 237. Paul 1893 (shedding). Slater 1871 (shedding and growth). Ullrich 1964. Wunderlich 1892 (shedding with 10-year regularity).

9.4.6 *Horn measurements*

Anon. 1909. Buffon & Daubenton 1764: 187. Groves 1971: 241. Inglis 1878: 213 (Nepal). Laurie 1978b: 423 (Nepal). Lydekker 1892a, 1893: 378, 1907a: 29, 1907c: 73. Mohr 1957. Nripendra 1908: 454. Pelinck & Upreti 1972: 6 (Nepal). Sander 1779. Slater 1871. Stott 1978: 4. Ward 1896: 282.

9.4.7 *Size*

Anon. 1909 (record height), 1935: 89. Baldwin 1883: 144. Bennett 1834. Blanford 1891. Blyth 1872b: 3105. Boitard 1842: 404. Bolau 1900. Brandt 1878a: 38. Brehm 1877: 514. Burton 1962: 208. Chenu & Desmarest 1858: 7. Crandall 1968: 505. Desmarest 1822: 397. Ellison 1925: 33 (Nepal). Figuier 1869: 118. Frädrich & Frädrich 1973: 194. Gee 1953b: 767 (male Kaziranga). Geoffroy & F. Cuvier 1820. Guggisberg 1966a: 131. Heck 1896: 1018. Inglis 1878: 213. Jerdon 1867: 233. Kinloch 1885: 63 (male India). Kirby 1920: 229. Krauss 1851, pl. 26. Lang 1961b: 404, 1967a: 606. Laurie 1978b: 66, 422, 1982: 308. Lenz 1835: 326. Lydekker 1892a, 1900: 22, 1907a: 29. Maliepaard & de Vos 1961: 90. Mayer 1847: 60. Mukherjee 1963: 45. Nripendra 1908: 454 (Cooch Behar, largest specimens shot 1886-1901). Noll 1873: 52. Parsons 1743: 536. Pocock 1912. Prater 1965: 229. Reynolds 1971: 2. Roy 1945: 125. Sander 1779. Schinz 1824: 288. von Schreber 1835: 304. Selous n.d.: 184. Shaw 1800: 199. Silberman & Fulton 1979: 7. Stockley 1928: 100. Talbot 1960: 187. Tate 1947: 353. Tin Yin 1967: 151. Ward 1896: 282. Wood 1851: 755.

9.4.8 *Size at birth and growth*

Ali 1927b (Calcutta 1925). Blaszkiewicz 1980: 76. Buffon & Daubenton 1764: 191. Chowdhury 1966. Frädrich & Frädrich 1973: 195. Gee 1953a: 344, 1953b (growth 2 weeks). Giebel 1855: 207. Guggisberg 1966a: 141. Hagenbeck 1966: 86 (6 months).

Hagenbeck 1969 (growth of hand-reared animal). Hodgson 1826a, b, c, 1834 (Kathmandu, 3 days – 19 months – cf. Rookmaaker 1979: 76). Lang et al. 1977 (weight). Mackler & Buechner 1978: 179. R. 1958. von Schreber 1835: 305. Tate 1947: 354. Wackernagel 1962 (growth).

9.4.9 *Skin*

Neuville 1927.

9.4.10 *Age classes*

Laurie 1978b: 65–67.

9.4.11 *Individual identification*

Laurie 1978b: 58–64.

9.4.12 *Sexual dimorphism*

Anon. 1935: 89 (size). Guérin 1980: 157, 159 (males slightly larger than females). Laurie 1978b: 64 (sex determined by appearance: differences of adults in size, horn shape, folds). Pocock 1946b: 312 (skulls). Roy 1945: 125 (horn length). Shebbeare & Roy 1948: 90 (female smaller than male).

9.5 ANATOMY

9.5.1 *General dissections*

Burne 1905. Cave 1953a (R. Owen's dissection). Cuvier 1804a (Versailles rhino, 1795). Gervais & Gervais 1875a: 466 (drawings prepared at dissection in 1795). Grassé 1955: 1113–1118. Ingles & Sawyer 1979: 148 (R. Owen's drawings). Jouin 1889: 226–264 (drawings prepared at dissection in 1795). Mayer 1854. Owen 1852. R.S. Owen 1894: 347. Thomas 1801 (young animal).

9.5.2 *Organs*

Brain: Krueg 1878: 327–330. Mayer 1847: 61. Oboussier 1956: 9 (weight).

Epipharynx: Cave 1974a: 134–136, 1976a.

Eye: Johnson 1901: 25, pl. 15. Mayer 1847: 60, 1852a: 43, 1852b. Rudolphi 1804: 176 (drawing by Vicq-d'Azyr).

Foot glands: Beddard 1902 (as taxonomic character). Cave 1958b (anatomy, histology, description by Owen), 1962a. Pocock 1912.

Heart: Cave 1981 (cardiac receptor system).

Hypophysis: Oboussier 1956.

Intestines: Beddard 1902 (small intestine, as taxonomic character). Gervais & Gervais 1875a, b, c (small intestine). Mitchell 1905: 478. Rawitz 1894: 215 (epithelium). Rudolphi 1804: 176 (drawing by Vicq-d'Azyr).

Kidney: Kolmer 1918: 46 (micro- and macroscopic).

Lymph: Cave 1978 (cervical lymphatics). Cave & Aumonier 1962a: 212 (lymph node histology), 1964a (lymph node structure and histology).

Milt: Retterer & Neuville 1916.

Musculature: Cave 1957 (Owen's discovery of *Musculus depressor palpebrae inferioris* and *M. nictitator*). Saban 1970 (superficial muscles of head and neck).

Parathyroid: Cave 1953a, b (discovery by Owen), 1976b: 417–427. Cave & Aumonier 1966: 51–52 (histology).

Penis: Cave 1964b: 570, 572. G. Cuvier 1810, pl. 24 (this species?). Disselhorst 1904:

312. Forbes 1881, Freund 1930: 416-424, Gerhardt 1909: 358. Kakati & Rajkonwar 1972, Mayer 1847: 61, Parsons 1743: 534. Rudolphi 1804: 176 (drawing by Vicq-d'Azyr).
- Placenta*: Dolinar et al. 1965, Ludwig & Dolinar 1963, Ludwig & Müller 1965, Ludwig & Villiger 1965.
- Reproductive organs*: Disselhorst 1904: 312.
- Salivary glands*: Cave 1982.
- Stomach*: Oppel 1896: 333.
- Temporo-pterygoid ligament*: Cave 1979b: fig. 5b.
- Thymus*: Cave 1964a: 75.
- Thyroid*: Cave 1976b: 417-427, 1976c.
- Tongue*: Cave 1977, 1980 (musculature), Oppel 1900: 245, 327, Parsons 1743: 531.
- Tonsils*: Cave 1979a: 477-482.

9.6 OSTEOLOGY

9.6.1 Skull

- Brandt 1878a: 38, Cave 1959 (foramen ovale), 1965: 501 (lacrymal epiphysis), Chakraborty 1972 (occipital surface, foramen magnum, subaural channel), Gray 1868: 1011, Guérin 1980: 33-54, Pocock 1944b: 836, 842 (premaxillae), 1945a: 343 (nasal septum), 1946b: 310, von Schreber 1835: 305, Spix 1815: 21, pl. 7 fig. 21, Thenius 1955a (ossification nasal septum), Zeuner 1934: 45 (shape in captive specimens).

9.6.2 Skull measurements

- Chakraborty 1972, Finlayson 1950: 154, Gray 1868: 1032, Guérin 1980: 48, 53, Laurie 1978b: 423 (Nepal).

9.6.3 Dentition

- Beden & Guérin 1973: 23 (size), de Blainville 1846: 51-58, Boitard 1842: 404, Chenu & Desmarest 1858: 6, Cuvier 1812a: 2nd plate, 1836b, pl. 40, Desmarest 1819: 240, Deraniyagala 1946: 167 (size upper molars), Faujas-St. Fond 1809: 193-197, Gray 1968, Guérin 1980: 54-73 (description, measurements), Heck 1896: 1018, Lang 1961b: 404 (length incisors), Laurie 1978b: 102-104 (incremental lines in cementum and dentine of lower incisor as measure of age), Lydekker 1880a, 1892a, 1893: 378, Mayer 1847: 58, Owen 1845: 587ff, Pocock 1946b: 311, von Schreber 1835: 305, Ullrich 1964: 247, Zeuner 1934: 30.

9.6.4 Postcranial skeleton

- Banerjee & Chakraborty 1973 (subfossil bones compared with recent female, size), Beden & Guérin 1973: 25-35 (size of some bones), de Blainville 1846: 10-36, Chenu & Desmarest 1858: 4, Clutton-Brock 1965: 10 (scapula size), Cuvier 1804b, 1812a: 3-12, 1st plate, 1822: 5-20, 1836b, pl. 39, Grassé 1955: 1107-1113, Gray 1862: 281 (vertebral formula), Guérin 1980: 74-152 (descriptions and measurements of bones), Heller 1913: 15, 32 (vertebral formula; size), Pander & d'Alton 1821: 18-20, Pouchet & Beaugard 1889: 189-200, Prashad 1936: 31 (scapula), Schinz 1824: 287, pl. 1a.

9.7 PHYSIOLOGY

Burton 1962: 208 (temperature). Hooper 1910: 518 (urine analysis). Jones 1979: 242, 245 (vit. A and copper levels; haemoglobin and serum biochemistry). Kassam & Lasley 1981 (estrogen concentration in urine samples). Mayer 1847: 60 (breathings and heart beats per minute; skin temperature). Ruedi & Müller 1975 (breath frequency). Vogel 1817: 157-162 (urine analysis).

9.8 GENETICS

Höslü & Lang 1970 (chromosomes, diploid number $2n=82$). Wurster & Benirschke 1968 (description of chromosomes, $2n=82$).

9.9 DISTRIBUTION AND STATUS

9.9.1 *General reports*

Anon. 1967d (status 1963, 1967), 1967h (status). Appelman 1959. Coolidge 1964: 34 (status 1961). Crandall 1968: 505 (from Kashmir to Indo-China). Desmarest 1822: 397. Ellerman & Morrison-Scott 1951: 339. Faunthorpe 1924b: 206. Gee 1948b: 64. Haltenorth & Trense 1956: 110. Hutchinson & Ripley 1954: 178. Krumbiegel 1960, fig. 2 (map of former occurrence). Lang 1961b: 372 (status). Laurie 1978b: 370-384 (management and conservation of existing populations). Lydekker 1893: 378. Murray 1866: 338. Oken 1838: 1194. Ripley 1952: 570, 1966: 149 (status). Sanyal 1892: 130. Schenkel & Lang 1969: 1. von Schreber 1835: 306. Spinage 1962: 79 (map). Sterndale 1884: 405. Stonehouse 1981: 58 (map). Stott 1978: 5.

9.9.2 *Bhutan*

Baker 1887: 257 (foot of Bhutan hills). Baldwin 1883: 145. Beavan 1865 (R. Teesta, shot). Brandt 1878a: 39. Hobley 1932: 20. Jerdon 1867: 233. Kinloch 1885: 61, 1904: 59. Maliepaard & de Vos 1961: 93. Slater 1872c, 1875a (drawing of living specimen). 1876a: 649. Selous n.d.: 186. White 1909: 235, 322 (lower valleys, uncommon).

9.9.3 *India and Bangladesh*

Review: Guggisberg 1966a: 133-137. Harper 1945: 376-380. Laurie 1978b: 12, 394-398. Mukherjee 1963: 45-47, 1974: 340, map. Rookmaaker 1980b: 254-258. Seshadri 1969: 92-95, 105.

Status: Anon. 1963c, 1967b. Ali 1950. Berg 1933: 51, 119. Crandall 1968: 505. Fitter 1968: 59, 1974b: 444. Gee 1950a: 86, 1950b: 1733, 1952a: 224, 1953a: 341, 1958: 353, 1963b: 512, 1964: 157. Grzimek 1958: 118, 1960a: 22. Kirk 1968: 150. Laurie 1978b: 12. Maliepaard & de Vos 1961: 93 (1926-1959). Martin 1981a. Reynolds 1971: 13. Schaurte 1968: 286, 290. Schenkel & Schenkel 1980. Shebbeare 1953: 143. Simon 1966, 1967. Spillelt 1966, 1968. Stonehouse 1981: 62. Stracey 1949: 472. Talbot 1960: 191-194. Ullrich & Ullrich 1968: 203. Ullrich 1964: 225. Waller 1972a: 6 (1964-1972).

Hunting: Baker 1887: 252-257. Gee 1948a (pits), 1952c, 1964: 159. Kinloch 1904: 59-65. Nripendra 1908. P. Ryhiner 1952. Street 1961: 101 (pits). Talbot 1959: 563. Ullrich & Ullrich 1968: 57, 77. Ullrich 1964: 217.

'India' only: Blyth 1872b: 3106. Bourret 1927: 62. Brehm 1877: 515. Burton 1962:

208. Desmarest 1819: 243. Dollman 1937: 73. Duncan 1892: 330. Fischer 1829: 413. Fitter 1974a: 343. Gray 1868. Hartert 1901-02: 231. Heck 1896: 1018. Jordanus 1863: 18. Layard 1861: 61. Lydekker 1925: 117. de Rennefort 1702: 482. P. Ryhiner 1952. Schaller & Simon 1970: 14. Schinz 1824. Stockley 1928: 101. Tate 1947: 352.

Records:

General: Ara 1954: 70 (Bihar, last shot in Champaran, 1938). Baker 1887: 249, 251 (R. Langai, Sylhet; Cachar until 1825; Purneah, base of Rajmahal hills, extinct). Baldwin 1883: 145 (Assam, Philibeet dt., Gorruckpore, Tezporé). Bengal Government 1932 (Bengal). Berg 1933: 54, 118 (Bengal, R. Torsa 1932), 1935: 181 (Bengal). Blanford 1891 (Assam, Sikkim, Rajmahal). Blyth 1862d: 366 (Benares). Cockburn 1883 (Bihar, Mirzapore). Dutt-Mazumdar 1954: 158 (Bengal; Cooch Behar). Gee 1949a: 75 (N. Bihar), 1964: 151 (Assam, N. Bihar, N. Bengal). Hobley 1932: 20 (Bengal; Cooch Behar). Horsfield 1851: 195 (Gwalpara, near Assam border, one shot 1777). Inglis et al. 1919: 825 (Jalpaiguri dt.). Jerdon 1867: 233 (limits discussed). Lydekker 1907a: 30, 32 (Rajmahal; Cooch Behar). Mountford 1969: 39 (intention to re-introduce in Sunderbans). Prater 1965: 230. Shebbeare 1935 (Bengal, localities; Cooch Behar), 1948 (Nilpara, increase since 1938), 1953: 141-142 (Rohilkand, Uttar Pradesh, 19th century; Rajmahal hills until 1850). Simson 1886: 188 (Bengal, localities). Williamson 1807: 45, 46 (seldom west bank of Ganges; hunt at Derriapore 1788). Wood 1930: 68 (Bengal, localities). Yule in Jordanus 1863: 18 (Rajmahal hills).

Assam: Anon. 1972a (Jaldapara, 29 poached 1971), 1972f (Jaldapara). Baker 1887: 252-256 (Goalpara). Blyth 1872b: 3108. Brandt 1878a: 39. Burnett 1958: 324 (Manas, status 1948, 1958). Butler 1847: 28. Gee 1949a: 75 (Jaldapara, status 1932, 1940), 1964: 121, 138 (Tirap Frontier Tract; Manas status). Ghosh 1945 (3 killed 1943-44). Kinloch 1885: 61, 1904: 59. Lydekker 1913: 41. Martin 1981a (Jaldapara). Pollok 1879, 1: 95 (localities). Ripley 1952: 572 (north of Brahmaputra near Kaziranga). Roy 1945 (Jaldapara). Slater 1872c: 426. Selous n.d.: 186. Shebbeare 1953: 144 (Gorumara). Shebbeare & Roy 1948: 89 (Jaldapara, status 1930-1948). Simson 1886: 188 (localities). Ullrich 1965a (Goalpara, Jaldapara). Waller 1972b: 580, 582 (Jaldapara, Manas). Wayre 1968: 338 (Manas). Wilson 1924: 62, 207. Wood 1930: 68 (localities). WWF 1973 (Jaldapara).

Kaziranga N.P., Assam: Ali 1950. Banerjee 1972. Brooks 1967: 20. Cash & Cash 1971. Das 1969 (status 1908, 1966, poaching 1966-68). Das & Mukherjee 1974: 83 (status). Debraine 1967. Eastmure 1949. Fitter 1968: 59. Gass 1971 (status 1938). Gee 1948b, 1949a, 1963b, 1964: 153. Hill 1968. Khajuria 1956 (conservation problems). Klös 1966: 155 (status, wandering into Mikir mountains). Knecht 1971. Krishnan 1972. Lahan & Sonowal 1973: 267 (census 1972). Laurie 1978b: 12, 394. Schaller & Simon 1970: 14. Seshadri 1969: 97-106. Shebbeare 1953: 144. Stonor 1946. Street 1961: 102 (status 1904-1951). Sumati 1976a: 12. Talbot 1956, 1957. Ullrich & Ullrich 1968. Ullrich 1964: 226 (status), 1965b, 1970, 1972. Vaidya 1967: 151-173. Veselovsky & Veselovsky 1968: 77. Waller 1971, 1972a, b.

North-West India and Pakistan: Ali 1927a: 860-861 (Babur, Suleiman, Jahangir). Babur 1922: 378, 451, 489 (Peshawar region, N. Pakistan, 16th century: 'in Parashawar and Hashnagar jungles, so too between the Sind river and the jungles of the Bhira country; also banks of the Saru-river in Hindustan'). Bhaduri et al. 1972: 440 (Babur, Akbar, 16th century). Blyth 1862a: 199, 1872b: 3107 (R. sonaicus). Cockburn 1883. Gee 1949a: 75 (Punjab, 16th century), 1964: 151 (Peshawar; Kashmir in 1398). Guggisberg 1966a: 132. Harper 1945: 376. Laufer 1914: 78 note 3, 132, 133 note 1. Laurie 1978b: 7-12. Laurie & Olivier 1977: 659, 660. Lydekker

1907a: 30, 1925: 117 (Peshawar; Punjab). Marshall 1931, I: 348, II: 387. Petis de la Croix 1723. Rao 1957: 269-270 (Peshawar; Kashmir 1398). Reynolds 1971: 13. Roberts 1977: 159. Seshadri 1969: 90-92. Shebbeare 1953: 142. Sumati 1976a: 13. Talbot 1957: 389, 1959: 563, 1960: 188-191.

9.9.4 Nepal

Review: Caughley 1969: 21-22 (history). Gee 1959a (map facing p. 62). Guggisberg 1966a: 136. Harper 1945: 378-379. Laurie 1978b: 10-11. Mukherjee 1963: 45-46.

Status: Anon. 1963c. Blower 1973: 274. Caughley 1970. Crandall 1968: 505. Fitter 1968: 59, 1974b: 444 (effects of poaching). Fleming 1969. Gee 1950a: 86, 1950b: 1733, 1953a: 341, 1958: 354, 1963a: 73, 1963b: 512, 1964: 157. Grzimek 1958: 118. Hodgson 1834. IUCN 1971. Maliepaard & de Vos 1961: 93. Mishra & Mierow 1976: 19. Pelinck & Upreti 1972. Reynolds 1971: 14. Rohr 1959. Schaurie 1968: 286. Simon 1966, 1967. Spillett 1966. Stracey 1957. Street 1961: 104. Talbot 1960: 191. Ulrich & Ulrich 1968: 200. Ulrich 1964: 226. Waller 1971: 830. Whitney 1971: 27. Willan 1965b. WWF 1971b.

Hunting: D. 1933. Inglis 1878: 214. Oldfield 1880: 235. Scott 1971. Smythies 1942. *'Nepal' only:* Blanford 1891. Blyth 1872b: 3106. Brandt 1878a: 39. Burton 1962: 208. Dollman 1937: 73. Fitter 1974a: 343. Heck 1896: 1018. Hodgson 1844: 288. Kinloch 1904: 59. Lydekker 1907a, supplement, 1913: 41, 1925: 117. Roy 1945: 125. P. Ryhiner 1952. Slater 1872c: 426. Stockley 1928: 101. Tate 1947: 353. van't Woudt 1965: 15.

Records: Baldwin 1883: 145 (R. Sardah). Bolton 1975: 16, 17 (Nawalpur, Reu valley). Chesebrough 1970: 165 (R. Bagmati, Bālauri area). Ellison 1925: 13, 34 (Dhoba 1921; Morang 1901). Inglis 1878: 204 (Khosi dt.). Jerdon 1867: 233 (terai, as far as Rohikund). Kinloch 1885: 61 (Jalpaigori). Kirk 1968: 150. Lydekker 1909 (terai). Manners-Smith 1909 (localities). Mitchell & Punzo 1976: 56 (Tamsipur). Prater 1965: 230.

Rapti Valley, Chitwan N.P.: Anon. 1935: 89, 1971e, g, 1973b, 1974b. Blower 1974 (poaching). Bolton 1975: 16, 1977: 476. Caughley 1969: 22-24 (census 1968). Gee 1959a, b (status). Laurie 1978a, b, 1982: 312. Oldfield 1880: 235, 237. Pelinck & Upreti 1972 (census). Seidensticker 1976. Shebbeare 1953: 143 (status 1947). Smythies 1953: 219. Smythies 1942: 19, 28, 48. de Stoppelaar 1976. Waller 1972a: 5-7. Willan 1965a, b.

9.9.5 South-East Asia

Rookmaaker 1980b: 258-259 (*R. unicornis* probably never occurred east of India). There are records from many countries:

Burma, North: Blyth 1862a: 151 (absent), 1875: 51. Harper 1945: 380 (doubtful). Laurie 1978b: 8 (possible reports mentioned). Lydekker 1905 (Singpho, possibly *R. unicornis*). Pollok 1879, I: 95 (Arakan, Yonzaleen). Reynolds 1971: 13. Rookmaaker 1980b: 259 (absent, review). Stockley 1928: 101 (absent). Stonehouse 1981: 62 (formerly abundant). Talbot 1959: 563. Tun Yin 1956: 692 (wanderers from Assam), 1967: 153 (in 1962).

Burma, Tenasserim: Blyth 1842: 448 (two heads of *R. unicornis* from Tenasserim), 1875: 51. Fitter 1974b: 444 ("handful" present). Rookmaaker 1977c: 55 (review 19th century sources). Talbot 1960: 188.

China: Krumbiegel 1960: 14 (former occurrence). See *R. sondaicus*, 8.7.5.

Indo-China: Deuve & Deuve 1962: 102 (Laos, 2 names for single-horned rhino), 1964: 28 (Laos, uncertain). Duncan 1892: 330. Harper 1945: 380 (Cochin-China).

uncertain). Llopis 1974b: map. Talbot 1957: 390, 1960: 188. See *R. sondaicus*, 8.7.7.
Malaya: Cantor 1846: 262. Rookmaaker 1977c: 55 (review).
Thailand: Duncan 1892: 330. Harper 1945: 380 (doubtful). Llopis 1974b: map.
 Talbot 1957: 389, 1960: 188.

9.9.6 Prehistoric occurrence

9.9.6.1 General reports

Guérin 1980: 169.

9.9.6.2 India and Pakistan

Laurie 1978b: 6. Lydekker 1880a: 31, 1881: 5.

Banda: Blanford 1891. Cockburn 1883 (fossil).

Bihar: Nath 1976 (Chirand, Saran dt., ca. 1700 B.C.).

Gujarat: Bhaduri et al. 1972: 407 (Lothal). Clutton-Brock 1965: 9-10 (Langhnaj).
 Momin et al. 1973 (8000-1200 B.C.). Nath 1968: 18 (Lothal, 2000-1200 B.C.), 1969:
 104, 107 (Langhnaj; Kalibangan). Sankalia & Karve 1949: 31 (Langhnaj). Zeuner
 1952: 130 (Langhnaj, possibly a subspecies not identical with surviving forms).

Madhya Pradesh: Sagreiya 1969: 717, 718 (4th century B.C.).

Madras: Blanford 1891. Gee 1949a: 75. Hooijer 1946a: 84. Krishne Gowda 1975:
 309. Lydekker 1880a: 32, 1883: 92 (recent alluvial), 1925: 117.

Mohenjo-Daro: Bhaduri et al. 1972: 406-407. Gee 1964: 151. Lang 1961b: 369.
 Marshall 1931, I: 72, 205, 348, 353, II: 387.

Narbada: Falconer 1868, I: 21 (mentioned *Rhinoceros Namadicus*, from the
 valley of Nerbudda). Gee 1949a: 75. Hooijer 1946a: 83-84 (*R. namadicus* Lydekker,
 1876). Lydekker 1880a: 31 (earlier named *R. namadicus* but it is '*R. indicus*'), 1883:
 92 (pleistocene).

Harappa, Punjab: Nath 1968: 18 (2500-1500 B.C.). Prashad 1936: 30 (scapula).
 Roberts 1977: 159.

Rajasthan: Banerjee & Chakraborty 1973 (Kalibangan, 3500-4000 B.P.). Nath
 1969: 104, 107.

Uttar Pradesh: Baker & Durand 1836: 493 (description of '*R. Indicus fossilis*'
 from Dadapur collection, Siwalik hills near Maginund). Gee 1949a: 75 (fossilized).

9.9.6.3 Java

Dubois 1908: 1259 (description of *R. kendengindicus*). Hooijer 1949: 126
 (*Rhinoceros unicornis kendengindicus* Dubois differs from recent form, is not
 ancestral to it).

9.10 ECOLOGY AND BEHAVIOUR

9.10.1 Review and field-work

Gee 1953a, b. Jones 1979: 240 (zoo animals). Laurie 1978b (comprehensive
 ecological study, e.g. pp. 67-77: census methods; 292-298: changes of behaviour
 with age; 299-310: individual differences of behaviour; 328-345: selective
 consequences of individual behaviour; 345-369: evolution of behaviour), 1982.
 Ullrich 1964 (popularized in Ullrich & Ullrich 1968).

9.10.2 General reports

Brehm 1877: 520ff. Chenu & Desmarest 1858: 7-8. Gee 1953c (questionnaire).

Haltenorth & Trense 1956: 110. Jacobi 1961.

9.10.3 *Activity pattern*

Baldwin 1883: 145. Gee 1948a: 106. Lang 1961b: 405. Laurie 1978b: 143, 146-152. Lydekker 1907a: 31. Sander 1779 (sleep). Schenkel & Lang 1969: 34. Shebbeare & Roy 1948: 90. Ullrich 1964: 247, 1965b: 99. Veselovsky & Veselovsky 1968: 80. Wood 1930: 61.

9.10.4 *Associations*

Beavan 1865: 170. Burton 1962: 208. Gee 1953b: 770, 1964: 158. Giebel 1855: 208. Hutchinson & Ripley 1954: 178. Kakati & Rajkonwar 1972. Laurie 1978b: 215-225 (groups and associations), 263-275 (interactions between individuals), 301-302 (interactions between females), 303-309 (interactions of males with others), 309-311 (interactions between adult males); 1982: 316, 323-328 (interactions). Lydekker 1907a: 30. Mukherjee 1963: 47. Prater 1965: 230. Schenkel & Lang 1969: 32. Schinz 1824. Selous n.d.: 182. Tong 1954. Ullrich 1964: 237. Ulmer 1956. Williamson 1807: 47.

9.10.5 *Defecation and urination*

Gee 1948a: 107. Lang 1961b: 405. Laurie 1978b: 243-252, 1982: 319. Schinz 1824.

9.10.6 *Dung heaps*

Anon. 1935. Gee 1948a: 107, 1953b: 771, 1964: 158. Hutchinson & Ripley 1954: 178. Inglis 1878: 214. Kakati & Rajkonwar 1972. Laurie 1978b: 252-254, 318. Mukherjee 1963: 47. Prater 1965: 230. Ripley 1952: 572. Schenkel & Lang 1969: 35. Shebbeare & Roy 1948: 90. Smythies 1942: 28. Sumati 1976b: 5. Talbot 1960: 202. Ullrich 1967: 59. Williamson 1807: 46.

9.10.7 *Food*

Anon. 1935: 89. Blaszkiewicz 1980: 80, 86, 91, 94 (captivity). Boitard 1842: 404. Bolton 1975: 16. Brahmachary et al. 1970 (Manas), 1974 (Kaziranga). Burton 1962: 208. Gee 1964: 160. Guérin 1980: 179. Jones 1979: 241. Kakati & Rajkonwar 1972. Laurie 1978b: 115-134, 200-207, 399-406 (diet), 134-135 (methods of eating), 135-139 (feeding in cultivated lands), 139, 207 (drinking); 1982: 313-315. Laurie & Olivier 1977: 660 (introduced plants). Lydekker 1907a: 31. Mukherjee 1963: 47, 1974: 340. Nelson 1978: 764. Prater 1965: 230. Roy 1945. Schenkel & Lang 1969: 34-35. Schinz 1824. Selous n.d.: 182. Sigel 1881: 361. Shebbeare & Roy 1948: 90. Ullrich 1964: 232, 1965b: 99. Veselovsky & Veselovsky 1968: 80. Zeuner 1934: 30.

9.10.8 *Habitat*

Anon. 1935. Beavan 1865: 170. Boitard 1842: 404. Bolton 1975: 16. Burton 1962: 208. Butler 1847: 28 (high grass, swamps). Caughley 1969: 24-26. Guggisberg 1966a: 137. Laurie 1978b: 12, 14, 19-45, 88. Lydekker 1907a: 31. Mukherjee 1963: 47, 1974: 340. Oldfield 1880: 235. Pelinck & Upreti 1972: 6. Prater 1965: 230. P. Ryhiner 1952. Schenkel & Lang 1969: 32. Schinz 1824. Selous n.d.: 182. Seidensticker 1976: 190. Shebbeare 1953: 143. Stracey 1949: 471. Talbot 1960: 194-198.

9.10.9 *Home range*

Laurie 1978b: 167-200, 1982: 320-321, 323.

9.10.10 *Longevity*

Blaszkewitz 1980: 72. Dover 1932: 87. Flower 1931: 202. Gee 1953a: 345, 1953b: 767. Hodgson 1834, Lang 1976: 164. Laurie 1978b: 102-104. Lydekker 1907a: 31. Mitchell 1911a: 453 (maximum 281 months). Mukherjee 1963: 47, 1974: 340. Reynolds 1961a: 18. Schinz 1824 (100 years).

9.10.11 *Movements and paths*

Baldwin 1883: 145 (long distance travel). Berg 1933: 79 (path). Caughley 1969: 26 (sedentary). Hutchinson & Ripley 1954: 178 (wandering). Inglis 1878: 214 (migration). Klös 1966: 153 (wandering during monsoon in Kaziranga; path). Laurie 1978b: 152-166, 183-200 (movements), 183-189 (individual wandering); 1982: 322. Ripley 1952: 572 (wandering). P. Ryhiner 1952 (path). Schenkel & Lang 1969: 33 (nomadism). Ullrich 1964: 237, 1965b: 99, 1967: 59 (path).

9.10.12 *Play*

Gerlach 1964: 41. Hediger 1949: 34. Inhelder 1955. Lang 1961b: 373. Laurie 1978b: 267-268. Mackler & Buechner 1978.

9.10.13 *Population structure*

Lahan & Sonowal 1973: 268 (sex ratio, mortality). Laurie 1978b: 87 (density), 89-94 (sex ratio), 100-102 (mortality), 106-107 (changes); 1982: 132 (density, sex and age composition). Pelinck & Upreti 1972: 5 (age structure). Seidensticker 1976: 195-196 (sex ratio), 199 (biomass).

9.10.14 *Relations with man*

Baldwin 1883: 145. Boitard 1842: 404. Brightwell 1948: 31. Desmarest 1819: 241. Dubois 1852: 207. Gee 1949a: 73, 1953b: 767-769, 1964: 111, 155, 161. Guggisberg 1966a: 138. Inglis 1878: 214. Laurie 1978b: 53-56, 291. Lydekker 1907a: 31. Marx & Koch 1910: 162. Mukherjee 1974: 340. Reynolds 1971: 14. P. Ryhiner 1952. Schenkel & Lang 1969: 33. Schinz 1824, von Schreber 1835: 307. Selous n.d.: 182. Seshadri 1969: 98. Smythies 1942: 28. Street 1961: 105. Sumati 1976b: 5. Ullrich 1964: 234-237. Veselovsky & Veselovsky 1968: 79. Wood 1930: 64-68.

9.10.15 *Relations with other animals*

General: Gee 1963b: 512. Seshadri 1969: 59. Talbot 1960: 198-200. Ullrich 1964: 232, 237.

Birds symbiosis: Guggisberg 1966a: 143. Schenkel & Lang 1969: 33. Ullrich 1965b: 99.

Elephant: H. van den Bergh 1973 (contact behaviour in zoo). Berg 1933: 91. Butler 1847: 29. Duncan 1892: 330-332. Gass 1971. Gee 1964: 112. Glover 1956. Inglis 1878: 214. Knighton 1900: 164. Oldfield 1880: 235. Reynolds 1971: 14. Roy 1945. Schenkel & Lang 1969: 33. Schinz 1824. Shebbeare 1955. Street 1961: 105. Ullrich 1964: 244. Williamson 1807: 44.

Tiger: Burnett 1958: 325. Gee 1963b, 1964: 113, 156. Guggisberg 1966a: 140. Knighton 1900: 165. Lahan & Sonowal 1973: 269. Laurie 1978b: 101. Mukherjee 1974: 340. Reynolds 1971: 14. Roy 1945. Schinz 1824. Shebbeare & Roy 1948: 90. Street 1961: 105. Ullrich 1965b: 100.

9.10.16 *Salt licks*

Laurie 1978b: 140-142, 1982: 315.

9.10.17 *Senses*

Desmarest 1819: 241. Inglis 1878: 214. Laurie 1978b: 314. Schinz 1824. Sumati 1976b: 5. Veselovsky & Veselovsky 1968: 79.

9.10.18 *Social behaviour*

General: Dixon & MacNamara 1981 (zoo).

Communications: Laurie 1978b: 228-242, 313 (vocalisations), 243, 316-319 (olfaction), 254-257 (reactions to scent), 257-263, 316 (physical contact); 1982: 317.

Fights: Gee 1963b: 510. Laurie 1978b: 101. Schenkel & Lang 1969: 35.

9.10.19 *Territory*

Hutchinson & Ripley 1954: 178. Owen-Smith 1971b: 294 (grazing and sleeping territories). Ripley 1952: 572 (territory marked by dung heaps), 1958: 173. Schenkel & Lang 1969: 35. Ullrich 1964: 237, 1970: 105. Veselovsky & Veselovsky 1968: 79.

9.10.20 *Voice*

Boitard 1842: 404. Desmarest 1819: 241. Gee 1953b: 769, 1964: 158. Guggisberg 1966a: 143. Laurie 1978b: 225-228, 1982: 317-318. Sander 1779. Ullrich 1964: 224. Veselovsky & Veselovsky 1968: 79.

9.10.21 *Wallowing and bathing*

Burton 1962: 208. Dubois 1852: 207. Gee 1948a: 106, 1963b: 511, 1964: 155. Laurie 1978b: 143-145. Lydekker 1907a: 31. Roy 1945. Schinz 1824. Talbot 1960: 202. Veselovsky & Veselovsky 1968: 80.

9.10.22 *Weapons*

Baker 1887: 251 (incisors, occasionally horn). Berg 1933: 92 (horn). Boitard 1842: 404. Gee 1963b: 510 (incisors). Glover 1956 (incisors). Guggisberg 1966a: 140. Lydekker 1907a: 30, 1925: 117 (lower incisor). Mohr 1957 (maybe horn). Oldfield 1880: 235 (horn). Roy 1945 (horn). Schenkel & Lang 1969: 34. Schinz 1824. Seshadri 1969: 98. Shebbeare 1955 (incisors). Sumati 1976b: 5 (teeth). Ullrich 1965b: 99. Wood 1930: 61 (tusk).

9.11 REPRODUCTION

9.11.1 *General reports*

Bhatia & Desai 1971, 1975 (Delhi zoo). Buechner & Mackler 1976, 1978 (Washington zoo). Buechner et al. 1975 (Washington zoo). Dixon & MacNamara 1981 (Washington zoo). Jones 1979: 242-243. Kakati & Rajkonwar 1972. Krishne Gowda 1969 (Mysore zoo). Lang 1957, 1961b, 1967a: 603-605, 1972 (Basel zoo). Laurie 1978b: 95-100, 275-291 (Nepal). Ripley 1952: 571. Schenkel & Lang 1969: 43-53. Wackernagel 1962 (Basel zoo).

9.11.2 *Age of sexual maturity*

Frédérich & Frédéric 1973: 195.

9.11.3 *Birth*

Blaszkiewicz 1980: 77, 88. Hagenbeck 1966 (Hamburg zoo).

9.11.4 *Courtship and copulation*

Asdell 1964: 534. Blaszkiewitz 1980: 74, 83, 88, 92. Fitter 1968: 107. Gee 1953a: 342, 1953b, 1964: 164. Guggisberg 1966a: 140. Inhelder 1955 (sexual foreplay). Lang 1956 (oestrous intervals), 1958 (copulation), 1975: 297. Laurie 1982: 328. Reynolds 1971: 15. Schenkel & Lang 1969: 35. Speiser 1973. Tong 1961 (oestrous, hormone treatment). Ullrich 1964: 244, 1965b: 99, 1967: 57. Williamson 1807: 45.

9.11.5 *Gestation*

Anon. 1935: 89. Ali 1927b. Ali & Santapau 1958a. Blaszkiewitz 1980: 76, 83, 88, 92. Brocklehurst 1931: 110 (8 months). bs. 1970. Burton 1962: 208. Chenu & Desmarest 1858: 8. Chowdhury 1966. Crandall 1968: 513. Figuier 1869: 118 (9 months). Frädriich & Frädriich 1973: 195. Gee 1953b: 767, 1964: 160. Giebel 1855: 208. Guggisberg 1966a: 141. Hagenbeck 1969. Hodgson 1826a, 1834. Hutchinson & Ripley 1954: 178. Klös 1972a, b, 1976. Lang 1976: 164, 1977. Lang et al. 1977. Mukherjee 1963: 47. Prater 1965: 230. R. 1958. Reed 1974a, b. Schinz 1824. Shebbear & Roy 1948: 90 (18 months). Street 1961: 107. Tate 1947: 354 (19 months). Tong 1961.

9.11.6 *Hand-rearing*

Blaszkiewitz 1980: 89 (Hamburg). Hagenbeck 1966 (Hamburg). Hagenbeck 1969 (Hamburg).

9.11.7 *Mating season*

Anon. 1935: 89. Asdell 1964: 534. Berg 1933: 116 (late March). Blaszkiewitz 1980: 76. Fraser 1968: 107. Gee 1952a: 226, 1953a: 342, 1953b: 766. Hutchinson & Ripley 1954: 178. Lang et al. 1977. Mukherjee 1963: 47 (not fixed), 1974: 340. Prater 1965: 230. Ullrich 1964: 244, 1967: 57 (April-May).

9.11.8 *Milk composition*

Klös et al. 1972, 1974. Lang 1961b: 392, 1967b. Nelson 1978: 765.

9.11.9 *Mother's behaviour to child*

Hagenbeck 1966: 82. Gee 1963b: 512. Guggisberg 1966a: 142. Lang 1961b: 393. Laurie 1982: 329. Mackler & Buechner 1978. Schenkel & Lang 1969: 35. Ullrich 1967: 65.

9.11.10 *Twins*

Gee 1955.

9.12 PARASITES

Cobbold 1879: 401-402 (*Gastrophilus rhinocerotis*, rhino bot). Hoare 1937 (*Triplumaria hamertoni*, a cycloposthiid ciliate). Lang 1966: 302 (in dung, Basel zoo). Laurie 1978b: 425 (Nepal). Murie 1870 (*Taenia magna* from intestines). Watson 1945 (*Triplumaria hamertoni*, *Entodinium* sp., cycloposthiid ciliates from alimentary canal). Zumpt 1965: 201, 205 (*Amblyomma*, Anoplocephala; Protozoa).

9.13 VETERINARY STUDIES

Anon. 1896: 280 (Breslau zoo, cause of death), 1918 (carditis), 1943 (renal failure). Bhattacharjee & Halder 1971 (death due to fascioliasis; *Fasciola gigantica* in liver). Blaszkiewicz 1980: 73-74, 96. Bolau 1900 (nose inflammation and kidney complaints). Buechner et al. 1975: 160 (Washington zoo, cause of death). Ensley & Bush 1976 (rectal prolapse). Gee 1948a: 107 (septicaemia). Hamerton 1939: 290 (osteo-arthritis), 1943: 127 (tuberculous pulmonary cirrhosis). Harthoorn 1976: 202 (immobilisation of captive animal). Jones 1979: 224-245 (restraint in zoos), 246-250 (review). Lang 1966 (Basel zoo), 1975: 297-298 (review), 1976 (review). Marx & Koch 1910: 164 (tumor in uterus). Nandi & Deb 1972 (horn cancer). Nelson 1978: 766 (zoo animals). Norwood 1929: 91 (asthma). Ruedi & Müller 1975 (chronic pneumonia). Scott 1927 (postmortem and histological examination; sarcoma of heart and lungs). Ullrich 1964: 247 (wounds on side).

9.14 MUSEUM SPECIMENS

Bombay, Bombay Natural History Society: Bombay nat. hist. soc. 1901 (head donated by H. Tickborne), 1909 (specimen donated by A. Butcher), 1914 (horn donated by F.W. Gore).

Calcutta, Asiatic Society of Bengal: Blyth 1842 (2 heads from Tenasserim), 1851 (skeleton, C. Hufnagle). Jerdon 1867: 233 (skulls, Fortescue). Pearson 1840: 518 (skull, Wallich; skeleton, J.H. Barlow).

Calcutta, Indian Museum: W. Sclater 1891: 202.

Calcutta, Zoological Survey of India: Chakraborty 1972: 124.

Calcutta, Medical College: Blyth 1862a: 163.

Cape Town, South African Museum: Layard 1861: 61 (one skull).

Dublin, Trinity College: Blyth 1875: 53 (skull, shot by Oldham).

Exeter, Royal Albert Memorial Museum: Howes & Bamber 1970: 327 (2 specimens).

Frankfurt am Main, Senckenberg: Marx & Koch 1910 (female from Frankfurt zoo).

Hamburg, Zoologisches Museum: Bolau 1900 (male animal).

Ipswich, Museum: Lydekker 1907a: 29 (mounted specimen). *Note*: The specimen is still on show, came from British Museum (Natural History).

Königsberg (Kaliningrad), Museum: Fitzinger 1860: 52 (died in menagerie, 1839).

Leiden, Rijksmuseum van Natuurlijke Historie: Hooijer 1946a: 83. Jentink 1887: 167, 1892: 197.

Leiden, W. Vrolik: Dusseau 1865: 160 (young skull, List).

Liverpool, Free Museum: Gray 1868: 1011.

London, British Museum (Natural History): Gray 1843: 186, 1846: 35 (Hodgson's specimens), 1862: 281, 1868: 1011. Home 1823, pl. 60 fig. 2 (horn). Lydekker 1913: 41. Pocock 1946c.

London, East India Co. Museum: Horsfield 1851: 195 (horn).

London, Guy's Hospital: Blyth 1872a: 404, 1872b: 3106, 1875: 50, Gray 1868: 1011.

London, W. Jamrach: Buckland 1882: 217 (skulls from India, 1867).

London, Royal College of Surgeons of England: Flower & Garson 1884 (nos. 2121-2128). Gray 1868: 1011. Pocock 1946c.

Manchester, Museum: S. Flower 1906: 26 (mounted specimen from zoo).

Moscow, Museum: Blyth 1870b (detached horn, from Moscow zoo).

Mysore, Intermediate College: Deraniyagala 1946: 167 (one skull).

New York, American Museum of Natural History: Anon. 1918 (animal from zoo).

Philadelphia, Academy of Natural Sciences: Ulmer 1959: 6 (male from Philadelphia zoo, 1901).

Stuttgart, Museum: Zeuner 1934: 45 (skull, from menagerie Calcutta).

Vienna, Naturhistorisches Museum: Fitzinger 1860: 52 (from menagerie, 1843).

Yale, Peabody museum: Norwood 1929: 101 (from circus, 1926).

9.15 EXHIBITION IN CAPTIVITY

9.15.1 *Review*

Appelman 1959 (births 1889-1958). Blaszkiewicz 1980: 72-73. Kourist 1969a (brief review), 1970 (19th century). Lang 1961b (1872-1959), 1975 (studbook and list of births since 1941), 1977 (statistics). Lang et al. 1977 (36 births 1956-1975). Reynolds 1961a: 18-30 (all specimens until 1959). Ruedi & Tobler 1980 (studbook, 93 specimens since 1940).

9.15.2 *General reports*

Flower 1931: 202 (longest living animals). Guggisberg 1966a: 130. Hediger 1949: 28. Keyser 1976: 146 (Amsterdam fairs 1814, 1841, 1846). Krishne Gowda 1975: 309-311 (plan for breeding population in S. India). P. Ryhiner 1952. Census of rare animals, *International Zoo Yearbook* 6: 445, 7: 371, 8: 366, 9: 291, 10: 323, 11: 334, 12: 392, 13: 372, 14: 422, 15: 422, 16: 438, 17: 363, 18: 434, 19: 415, 20: 476, 21: 361. Species of wild animals bred in captivity, *International Zoo Yearbook* 2: 262, 4: 232, 5: 341, 6: 398, 7: 315, 9: 233, 10: 268, 11: 279, 13: 336, 14: 385, 16: 399, 17: 322, 18: 392, 19: 370, 20: 438, 21: 325.

9.15.3 *American circuses*

Anon. 1873 (Warren & Co., Monroe county, species unidentified). Amidon 1974: 21 (*Zoological Institute*, 1835). Chindahl 1954: 5 (Raymond & Waring's Extensive Menagerie, 1850), 1959: 64, pl. 23 (Rice, Detroit 1853; Ringling 1920's). Dembeck 1965: 286 (menagerie, 1830). Durant 1957: 27, 31, 62, 74 (some specimens 1830-1930). Flint 1970: 6 (New England Zoological Exhibition, 1835). Kunz 1962: 115, 190 (Rice, 1855-1861). Mars 1955: 9 (Raymond & Waring show, 1852). Meyer-Holzappel 1970: 210 (Rice, 1855-1861). Norwood 1929: 90, 96-101 (Ringling, died 1926). Polacsek 1973 (1830-1835). Reynolds 1967a (review 1855-1926, especially Rice 1855-1861, Ringling 1907-1926), 1968a (12 specimens, 1826-1861), 1970 (1860-1900), 1971: 14 (Rice, 1850's), 1982 (Ringling Bros. and Barnum & Bailey circus, 1919-1926). Thayer 1975 (before 1835). Vail 1956: 21 (1826-1835).

9.15.4 *European travelling menageries*

Anon. 1823 (one died 1822). Blyth 1872a: 404, 1872b: 3106, 1875: 50 (Liverpool rhino, is *R. sondaicus*). Buckland 1882: 217 (Edmonds, England). Clarke 1976: 18 (1810-1825, in ceramics). Cuvier 1822: 22 (Paris). Fitzinger 1836 (Tourniaire 1815-1836), 1860: 51-52 (London and Stettin 1840-1843; London and W. Europe 1815-1839). Giese 1962: 126, 137 (Tourniaire in Vienna, 1818, 1838). Goldsmith 1840: 531 note (Liverpool rhino, 1835-36). Heikamp 1980: 319 (Europe 1810-1835). Home 1822: 43-44 (Exeter Change). Hufnagel 1873: 197 (Frankfurt/Oder 1816). Jardine 1836: 171 (Exeter Change 1810, Liverpool 1836). Keizer 1976: 146 (Tourniaire in Amsterdam, 1824). Kourist 1970: 142, 145 (Liverpool 1836, W. Europe), 1974: 544 (Tourniaire). Lehmann 1952: 66 (Tourniaire in Leipzig 1816). Mayer 1847: 60 (male from Liverpool). Oken 1838: 1194 (Germany 1816). Rookmaaker 1973c: 57

(Exeter Change 1770, 1790, 1799; W. Europe 1810-1836). Schinz 1824: 289, pl. 7. (Germany 1815). Slater 1876a: 650 (Liverpool rhino, *R. sondaicus*, skin to British Museum). Vogel 1817 (Munich 1817).

9.15.5 *Private menageries*

Butler 1847: 29 (Assam, often tamed, "may be seen at Gowahatty grazing on the plains as harmless cows"). D. 1933 (one caught in Nepal). Darwin 1875: 132 (India, much breeding). Geoffroy 1842-43: 60 (India, Jacquemont saw one in menagerie of Governor General of India at Calcutta). Jacquemont 1841: 169 (Barrackpore Menagerie, Calcutta). Marshall 1931, I: 348 (Mohenjo Daro, possibly captive). Palmer 1976, fig. 77 (*R. unicornis* draws wagon, "Sam Hague's original slave troupe at St. James's Hall, Lime Street, Liverpool", 1890's). Tavernier (1676) 1977, I: 93 (Jahanabad, tame in fields). Varthema 1928: 22 (Mecca, 2 unicorns "presented by a King of Ethiopia, that is, by a Moorish king (of Zeila)"). Williamson 1807: 45 (India, specimens briefly in possession of Mr. Cleaveland of Bhangulpore, Mr. Matthew Day of Dacca, and Mr. Young of Patna).

9.15.6 *Zoological gardens*

Amsterdam: Anon. 1872: 319; 1973b (arr. July 1973 from Berlin). Friedel 1872a: 328 (one present 1871). Kourist 1970: 147 (1864/1867-1873). Noll 1873: 51 (1863-living). Redeker 1982 (arr. 12.12.1978). Swierstra 1888: 19 (arr. 1864).

Antwerp: Anon. 1872: 319. Blyth 1869a. Brehm 1877: 515, 533, pl. facing p. 514 (in 1875). Douliez 1979 (arr. 1971, 1972, to Planckendael). Flower 1908: 12 (arr. 1907), 1931: 203 (died 1898). Friedel 1873: 214 (present 1871). Gens 1861: 93. Gijzen 1960: 16 (1861-1898, ca. 1907). Kourist 1970: 147 (in 1865). Maes 1910. Marx & Koch 1910: 161. Noll 1873: 51. Peel 1903: 61.

Basel: Ali & Santapau 1958a (in 1956). Blaszkewitz 1980: 73-82, bs. 1970 (in 1969). Gee 1952a, 1953a: 341 (arr. 1952). Grzimek 1960a: 22 (1956, 1958). Guggisberg 1966a: 39. Hediger 1949: 29ff. (arr. 1952). Lang 1956, 1957, 1958, 1961b, 1964, 1967a. R. 1958. Ulmer 1956, 1958.

Berlin East: Blaszkewitz 1980: 95. Petzold 1969: 619 (arr. 1966).

Berlin West: Blaszkewitz 1980: 82-87. Flower 1908: 12, 1931: 203. Gaebler 1883b: 243, 1901: 200. Heck 1940 (pair in 1875). Heikamp 1980: 319, 323 (1871-1872, arr. 1872, arr. 1874). Klös 1960 (in 1874, *R. sondaicus*), 1964a (arr. 1959), 1969a: 72 (arr. 1874), 1971 (female to Basel zoo), 1972a, b (1959-1965, pair arr. 1965, births 1972, 1976), 1976 (birth). Kourist 1970: 144 (in 1874). Martin 1878: 35. Marx & Koch 1910: 161 (left 1896 to Frankfurt a. Main), 164 (1872-1909). Noll 1873: 51 (pair arr. 1872), 1876: 336. Peel 1903: 125. Reynolds 1961c (1874-1884, *R. unicornis*). Rookmaaker 1977a (1874-1884, *R. unicornis*). Schlawe 1969: 28 (review). Slater 1880 (3 specimens). Zukowsky 1965: 1 (died 1907).

Bombay: Hill 1958.

Breslau: Anon. 1896 (died 1895). Gleiss 1967 (1894-1895).

Cairo: Gee 1950b: 1733 (capture), 1953a: 341 (pair arr. 1949).

Calcutta: Ali 1927b (birth 1925). Blyth 1862a: 146 (pair in Barrackpore). Flower 1914: 57 (pair in 1913). Gee 1953a: 341 (pair since 1933, birth 1925). Grzimek 1960a: 22 (birth 1925). Laurie 1978b: 5 (birth 1925). Nandi & Deb 1972 (died August 1970, 47 years old). Noll 1889 (arr. 1887). Ripley 1952: 571. Sanyal 1892: 131 (1878-1880). Street 1961: 107 (birth 1925). *Tun-Yin* 1967: 453 (died 1942).

Chicago: Gee 1948b, 1949a, 1950b (capture), 1953a: 341 (arr. 1948). Street 1961: 107 (arr. 1948).

- Cologne*: Kohle 1981: 104 (1872-1900). Kourist 1970: 149 (1871-1872). Kullmann 1979: 78 (arr. 1978). Martin 1878: 46. Paul 1893: 331. Wunderlich 1892: 373 (arr. 1872).
- Delhi*: Bhatia & Desai 1971 (birth 1971), 1975 (arr. 1965, 1968, birth 1971).
- Dresden*: Knauer 1914: 23, 195 (1873-1872, picture). Martin 1878: 50.
- Dublin*: Anon. 1835-36: 68 (arr. 1835).
- Frankfurt am Main*: Epstein 1897: 177 (arr. 1896). Gaebler 1901: 200. Marx & Koch 1910: 164 (1896-1909). Peel 1903: 156. Schlawe 1969: 28 (1896-1909). Seitz 1896: 147 (arr. 1896).
- Gauhati*: Bhattacharjee & Hakler 1971 (died ca. 1970). Chowdhury 1966 (1962-63, 2 births 1963).
- Gelsenkirchen*: Blaszkiewitz 1980: 95.
- Hamburg*: Anon 1872: 319. Bolau 1879: 110 (arr. 1869), 1893: 282 (arr. 1870), 1900 (1870-1900). Flower 1931: 202 (1871-1900). Kourist 1969b: 8 (arr. 1870), 1970: 147 (arr. 1870). Martin 1878: 67. Noll 1873: 51 (arr. 1870). Schlawe 1972: 181 (1870-1900). Sigel 1881: 361.
- Hamburg (Hagenbeck)*: Blaszkiewitz 1980: 87-91. Grzimek 1958: 120 (1930-1956). Hagenbeck 1907 (4 present). Hagenbeck 1966 (arr. 1957, birth 1964). Hagenbeck 1969 (birth 1967). Lang 1964 (birth 1964). Lydekker 1909 (3 caught in Nepal). Noll 1873: 53 (2 arr. from Jamrach). Rohr 1959: 959 (arr. 1930).
- Kathmandu*: Gee 1953a: 344 (birth 1826). Gray 1846: 35 (drawing). Hodgson 1825, 1826a, b, c, d, 1834 (birth 1824). Laurie 1978b: 5 (birth 1826). Rookmaaker 1979 (birth 1824). Ullrich 1967: 61, fig. 8 (2 present).
- London (W. Jamrach)*: Buckland 1882: 217-218 (2 died en route). Noll 1873: 53. Slater 1875a.
- London (Rice)*: Slater 1876a: 649.
- London (Zoological Society)*: Anon. 1870 (3 present), 1872: 319 (1 present). Bartlett 1898: 69 (died 1873). Bennett 1834 (arr. 1834). Blyth 1869b. Brightwell 1948: 31. Buckland 1870. Dorsman 1906: 74. Fitzinger 1860: 52 (1834-1849). Flower 1908: 12, 1931: 202. Garrod 1874: 2 (died 1873). Gee 1948a (capture), 1949a: 76 (arr. 1948). Hamerton 1939: 290 (1933-1938), 1943: 127 (died 1941). Kourist 1970: 146 (1856-1894). Loisel 1907: 16. Lydekker 1907a, supplement (1864-1904). Marx & Koch 1910: 161. Mitchell 1912 (arr. 1912), 1925 (arr. 1924), 1933a (arr. April 1933), 1933b (arr. July 1933). Newman 1870, 1872b. Noll 1873: 50 (review). Owen 1894: 347 (died 1848). Pocock 1912 (1886-1911). Slater 1864b (2 arr. 1864), 1872c: 426, 1876a (review), 1887 (arr. 1886). Scherren 1905: 59, 241 (arr. 1834, 1864-1904). Weinland 1862: 128.
- Lucknow*: Heber 1843: 213 (5 or 6 seen). Knighton 1900: 161 (menagerie of King Nussir-u-Deen exhibited 15-20 rhinos in course of time).
- Manchester*: S. Flower 1906: 26 (1876-died), 1908: 12 (arr. 1907), 1931: 203 (1876-1904). Loisel 1907: 30 (unidentified).
- Miami*: Amon 1970 (2 arr. 1970). Scott 1971 (pair from Nepal).
- Milano*: Gee 1952c.
- Moscow*: Blyth 1868a, 1868b (horn lost, unidentified), 1870b (horn lost).
- Mysore*: Anon. 1968a (birth 1968). Krishne Gowda 1969 (arr. 1956 and 1965, birth 1968), 1975: 310 (births 1968, 1971).
- New York*: Reynolds 1962b (died 1962).
- Paris*: Cap 1854: 157 (one present). Chenu & Desmarest 1858: 3, 4 (1814, 1819, 1850-1854). Desmarest 1819: 240 (in 1815). Figuier 1869: 118. Geoffroy & F. Cuvier 1820 (in 1815). Gervais & Gervais 1875a: 468 (1865-1874). Huet 1808, pl.

31. Jouin 1889: 212 (drawn 1815). Oustalet 1900: 378 (early 19th century, lived over 25 years). Peel 1903: 2 (1795 from Versailles). Schinz 1824: 280 (in 1800).
Philadelphia: Anon. 1943 (1923-1943). Buck & Anthony 1958: 48-90 (arr. 1923, capture Nepal). Flower 1931: 202 (1875-1901). Snyder & Moore 1968: 178. Ulmer 1941 (1875-1901, arr. 1923), 1956, 1958, 1959.
Portland: Reynolds 1964b (arr. 1964).
Rangoon: Reynolds 1962a (arr. 1962). Tun Yin 1967: 153 (died 1942).
San Diego: Anon. 1978a (birth 1978). Dolan & Moran 1969: 61 (arr. 1963). Hill 1964 (arr. 1963). Metzler 1981 (births 1978, 1980). Pournelle 1963b: 14 (arr. 1963 Basel-born), 1965 (arr. 1964 Gauhati-born). Reynolds 1964a (arr. 1963). Stott 1978: 5-8 (birth 1978, preceded by 2 unsurvived).
St. Louis: Reynolds 1962b (1934-1962).
St. Petersburg: Lukin 1883: 280 (1 present September 1882).
Stuttgart: Anon. 1970j (birth expected August 1971). Blaszkewitz 1980: 92-94. Krauss 1851, pl. 26 fig. 2 (in 1847).
Tokyo: Aritake 1959 (arr. 1959). Hara 1961 (arr. 1958). Hayashi 1959 (arr. 1959), 1963 (arr. 1958). Sotani 1974.
Trivandrum: Flower 1931: 202.
Versailles: see 3.15
Vienna: Antonius 1937 (1856-1894 to Breslau). Brachetka 1965: 62 (1856-1894). Grzimek 1958: 120. Knauer 1914: 61 (arr. 1856). Kourist 1970: 146. Noll 1873: 53 (arr. 1856).
Washington: Anon. 1974c (birth). Buechner & Mackler 1976, 1978 (birth 1974). Buechner et al. 1975 (arr. 1960 and 1963, birth 1974). Dixon & MacNamara 1981. Mackler & Buechner 1978 (birth 1974). Reed 1974a, b (birth 1974). Reynolds 1964a (arr. 1963).
Whipsnade: Gee 1948a (arr. 1947, capture Assam), 1950b (capture), 1952c (sent from India, 1952), 1953a (arr. 1952). Grzimek 1960a: 22 (birth 1957). Guggisberg 1966a: 141 (birth 1957). Pocock 1946b: 310 (1933-1945). R. 1958 (birth 1957). Street 1961: 106 (arr. 1947, 1952). Tong 1952a, b (arr. 1952), 1961 (arr. 1947 and 1952, birth 1957). Vevers 1947: 86.

ANALYSIS OF THE LITERATURE

PART 3

CULTURE

CHAPTER 10

CULTURE IN AFRICA

10.1 EATING OF RHINOCEROS MEAT

Andersson 1856:395. Baines 1864: 348. Baker 1890: 95 (Sudanese Arabs). Barrington 1803: 261 (Hottentots). Burchell 1824, II: 74. Cameron 1877: 212 (Tanzania). Fitzsimons 1920: 212. Fonck 1924: 113 (Tanzania). Foster 1960: 35. Grant 1872: 328 (Tanzania). Hughes 1933: 229 (Zambia). Lichtenstein 1811, I: 154. Martin 1980b: 25 (Malawi, Kenya). Neumann in Bryden 1899: 47 (Swahilis, liver a delicacy). Peel 1900: 299 (Somaliland, meat not eaten). Potocki 1900: 106 (Somalia). A.H. Straker in Bryden 1899: 49 (Ogaden tribe). Swayne 1894: 322 (Somaliland).

10.2 FOLK TALES

Bulphin 1955: 81 (Rhodesia, tale to explain dung scattering). Findlay 1903: 192 (Zululand, antipathy of fire). Letscher 1911: 121 (Zambia, loss of third horn). Molloy 1950 (Sudan, tale to explain dung scattering). Muoki 1979 (Kenya, Kamba tale). Stockley 1948: 35 (Kenya, dung scraping). Walker 1971 (Kikuyu tale to explain dung scattering).

10.3 ROCK DRAWINGS

General: Leakey & Leakey 1953: 49 (paintings linked with magical fertility rites).

Northern Africa: Arkell 1937: 284, pl. 15 (Sudan). Brentjes 1965: 93 (Sahara, hunted animal), 1978: 153-154 (N. Africa, Egypt). Breuil 1923: 159 (E. Algeria, 2 figures of *C. simum*). Fröbenius 1933: 109-110, fig. 1, pls. 10, 25 (Habeter III, Fezzan, central Sahara, middle paleolithic). Fröbenius & Obermaier 1925: 44, pls. 106-108 (N.E. Africa, possibly *C. simum*). Godbey 1939: 266 (N. Africa). Gowers 1950: 62, 63 (Egypt, Lybia, Sudan). Joleaud 1931: 685 (Central Sahara, Morocco: review of *C. simum* paintings). Keimer 1937 (relief in Deir el-Bahari), 1938a (relief in Silwah, near Edfou). Lavauden 1934, fig. 44 (S.W. Algeria). Mauny 1956: 250-252, 258, 271 (N.W. Africa, map and list of places). Winkler 1938: 30, pls. 20, 21 (southern upper Egypt).

Southern Africa: Brentjes 1978: 154. van Bruggen 1965b: 78 (S. Rhodesia, Matopos, *C. simum* and *D. bicornis*). Cooke 1964: 17-18 (S. Rhodesia, *C. simum* and *D. bicornis*). Gregory 1896: 267, fig. 17 (Bushmen, *C. simum*). Joleaud 1931: 685 (Bushmen, *C. simum*). Joubert 1971: 37 (Namibia). Lang 1923: 159. Péringuey 1909 (Cape Province, *C. simum*). Roth 1967: 217, 219 (S. Rhodesia, *C. simum*). Schaarte 1960: 390-391 (South Africa, Rhodesia). Summers 1959: 4, 24, 91 (Rhodesia). Tongue 1909, pls. 3, 46, 51, 53 (Southern Africa).

10.4 HUNT

Guérin 1980: 183-187 (general observations). See also relevant sections in 5.9 and 6.9.

10.5 USE OF BLOOD

Barrington 1803: 261 (Hottentots, dried blood as medicine). Levaillant 1795, II: 91 (S. Africa, blood as medicine). Pitman 1943: 94 (Zululand, bathing in blood to gain strength and courage).

10.6 USE OF HORN

Baker 1890: 90 (Sudanese Arabs, cups detect poison). Browne 1799: 261 (Sudan, sabre-hilts). Bruce 1790: 93 (Ethiopia, dagger hilts). Burton 1860, II: 413 (Abyssinia, medicine; Arabs, sword-hilts, dagger-hilts, tool-handles etc.). Fonck 1924: 114 (decoration). Foster 1960: 35 (Zulus, medicine). Godbey 1939: 272 (Ethiopia, sword-hilts). Gromier 1934: 358 (aphrodisiac). Hartmann, 1868: 366 (Ethiopia, antipoisonous). Hiltzheimer 1935: 1502 (Caffers, Massai, different uses). Hobley 1931: 21 (Massai, sticks, whips). Lang 1920: 89-90. Lichtenstein 1811, I: 318 (S. Africa, antipoisonous, imported from S.E. Africa). MacKenzie 1953 (Sudan, clubs, rings, medicine and to refresh old beer). Martin 1980b: 21, 25 (absence of use in medicine). des Murs et al. 1850: 26 (Ethiopia, sable). Parkyns 1854: 20 (Abyssinia, sword-handles). Sutcliffe 1952: 21 (Sudan, clubs). Swayne 1895: 148 (Abyssinia, important people may possess horns, used as sword-handles and drinking cups).

10.7 USE OF SKIN

Baker 1890: 95 (Sudan, shields). Bayer 1924: 6 (W. Kenya, shields). Cox 1900: 93 (Somali, whips, shields). Delegorgue 1847: 421 (whips). Drake-Brockman 1910: 106 (Somali, shields, whip-handles). Fonck 1924: 114 (whips, sticks, belts etc.). George 1946: 138 (Chad, shields). Lang 1920: 89-90. Lichtenstein 1811, I: 154 (S. Africa, whips). Lugard 1893: 519 (whips; shields in Sudan). Meyer 1909: 386 (E. Africa, elastic sticks). Myers 1876: 115 (Sudan, shields and sandals; Arabs against poison). Peel 1900: 299 (Somaliland, whips, shields). F.C. Selous in Bryden 1899: 55 (S. Africa). A.H. Straker in Bryden 1899: 49 (Somali, 15-25 shields from one animal). Swayne 1894: 322 (Somaliland, shields).

CHAPTER 11

CULTURE IN ANCIENT EGYPT

11.1 REVIEW

Brentjes 1978. Keimer 1948.

11.1 ARMANT (rhinoceros relief in procession on north face of east pylon wing, 1570-1085 B.C.)

Godbey 1939:266. Helck 1955. Mond & Myers 1940: 26-27, 159-160, pls. 9, 93.

11.3 ARMANT (stela of Thutmosis III, ca. 1450 B.C.)

Brentjes 1978:153 (as *C. simum*). Keimer 1937, 1938a, 1948: 49, fig. 1 (first occurrence of rhinoceros determinative, *ꜥkb*). Mond & Myers 1940: 183-184, pl. 103 (hunt in Nubia).

11.4 KERMA, Sudan (figures in bone and rawhide, 2000-1700 B.C.)

Brentjes 1978: 153. Hilzheimer 1931: 41 (identified as *C. simum*). Keimer 1948: 48. Reisner 1923, pls. 55, 60.

11.5 SAQQARA, Hor-Aha (pottery objects in shape of rhino horn, 1st dynasty)

Brentjes 1978:154. Emery 1939: 71-73, pls. 16-17, fig. 50. Keimer 1938b: 71-73.

11.6 STELA C. 14 (in Louvre, Paris, 11th dynasty)

Keimer 1948: 52, fig. 5. Sottas 1914: 164.

11.7 DOUBTFUL REPRESENTATIONS OF RHINOCEROS

Brentjes 1967:241 (Beni Hassan, one horn). Hilzheimer 1926:166 (Beni Hassan, 2500 B.C., museum Berlin), 1931:42 (Beni Hassan, king Ne-usur-re).

CHAPTER 12

CULTURE IN NEAR-AND MIDDLE EAST

12.1 REVIEW

Ettinghausen 1950: 12-72 and *passim* (Muslim texts on "unicorn", partly on rhinoceros).

12.2 SOURCES

Devic 1975: 182-184 (Arab authors on properties of rhinoceros horn). Laufer 1914: 88-89 (Persian book, 13th century). al-Qazwini 1928: 18, 25 (properties of Sinad and Karkaddan, written 1281). Reinaud 1845, I: 28-30 (Arab MS., 9th century, kerkodenn in India, description). el-Masudi 1841, I: 391-392. le Strange 1912: 27 (ms. of Ibn-al-Balkhi, 12th century, describing figures of Jamshid with lion, wild ass or unicorn or rhinoceros).

12.3 ART

Brentjes 1978: 159 (seal in Tell Asmar, Irak). Layard 1849: 434 (Indian rhinoceros on obelisk at Nimrud, N. Irak). Schmökel 1957: 138 (seal of Tell Asmar, imported from India).

Merissa rock tombs, Israel: Briggs 1931: 279 (3rd century). Ettinghausen 1950: 78 note. Gowers 1950: 64 (ca. 200 B.C.). Peters & Thiersch 1905: 26, pl. 10. Seullard 1974, fig. VIIIb. Toynbee 1973: 125 (2nd century B.C.).

12.4 EXHIBITION IN CAPTIVITY

Rookmaaker 1978b: 33, 35 (Near East, 16th-17th century). Varthema 1928: 22 (Mecca, rhino from Ethiopia). See also 9.15.5

12.5 NAME

Benveniste 1929: 374-376 (etymology of kargaddan). Blyth 1862b: 198. Carbou 1912: 66-67 (Arabic, Egyptian). Delitzsch 1874: 56 (Assyrian "kur-ki-za-an-nu" from Ethiopian). Hansen 1955: 167-168 (kergerdan in Persian and Russian). Hommel 1879: 327-329 (etymology of word for rhinoceros in south Semitic languages, suggesting an African origin). Sinor 1960 (names for rhinoceros and unicorn). Unbegaun 1956 (etymology of kergerden)

12.6 USE OF PARTS

Martin 1980a, b: 15-17, 1981b: 14 (Yemen, horn as dagger handles and medicine, possibly a recent development).

CHAPTER 13

CULTURE IN INDIA AND NEPAL

13.1 REVIEW

Briggs 1931. Ettinghausen 1950: 94-101 (influence of Indian folklore on Muslim ideas about unicorn). Rao 1957: 256 (Vedic period, 2000-600 B.C.).

13.2 EATING OF RHINOCEROS MEAT

Alberuni 1910, I: 203 (Brahmins). Baker 1887: 250 (Assam). Chakravarti 1906: 370 (Piyadasi). Gee 1964: 153. Inglis 1878: 214. Laufer 1914: 84 note 1. Schinz 1824. Street 1961: 101 (Brahmins).

13.3. EXHIBITION IN CAPTIVITY

Bernier 1699: 42 (Delhi, fights between rhinos). Brentjes 1965: 93 (kept in temples in Indus culture, 3rd century). Butler 1847: 29 (tamed animals herded in Assam). I. Geoffroy 1842-43: 69 (N. India, used for agriculture). Guggisberg 1966a: 130 (taming, battles). Heber 1843: 213 (tamed in Lucknow; could carry burthens). Jennison 1937: 55 (Indian courts). Knighton 1900: 161-164 (Lucknow, males fight elephant, tiger and other rhinos). Laufer 1914: 97 note 2 (taming, fights). Laurie 1978b: 4 (taming). Loisel 1912, III: 18, 21 (menageries of Rajahs). Lydekker 1909 (Nepal, 3 animals tamed and trained for racing). Majupuria 1977: 128 (Nepal). Petis de la Croix 1723: 106 ('Histoire de Timur-Bec' (1409), rhino in procession in Deli). Rousselet 1877: 123-124 (fight between 2 rhinos in Baroda—Note: figure shows armour-plated rhinos with two horns). Schlagintweit 1880 (fights with elephants). Yule & Burnell 1903: 363 (use in army).

13.4 FOLK TALES

Gee 1964: 155-156 (how the rhino got its armour plating).

13.4.1 *Enmity with elephant*

Alberuni 1910, I: 204. Butler 1847: 29. Coomaraswamy 1912: 30. Ettinghausen 1950: 83-84 (no early references to fights). Schlagintweit 1880.

13.4.2 *Ekaçringa legend*

Beal 1875: 124 (legend is prototype of unicorn stories). Ettinghausen 1950: 95-97 (Rsyasrngga sage prototype of unicorn-woman story). Laufer 1914: 109, 110. Lüders 1897: 113-115 (example of medieval legend that unicorn can be caught by virgin). Wadagaki 1898 (Japan: version of legend).

13.5 HUNTS AND DESCRIPTIONS

Alberuni 1910, I: 203-204 (appearance). Ali 1927a: 859, 861 (Babur, Jehangir). Babur 1922: 489-490 (appearance, distribution, temperament). Laurie 1978b: 5 (Babur, Jehangir).

13.6 ICONOGRAPHY

Brentjes 1969 (R. sondaicus on Indian miniature, 17th century), 1978 (R. sondaicus on 17th century miniature; seal in Teil Asmar (Iraq) imported from India; Mohenjo Daro seals). Cockburn 1883 (petroglyph in Mirzapur dt.). Conrad 1968: 253 (Mohenjo Daro). Coomaraswamy 1912: 30, pl. 22 (drawing 'Rhinceros charging elephant', Rajput (Jaipur) late 19th century-cf. Ettinghausen 1950: 82 note 40). Krumbiegel 1960: 19 (Mohenjo Daro). Lang 1961b: 369 (Mohenjo Daro). Majupuria 1977: 128 (Kathmandu: Bhaktapur temple). Marshall 1931, I: 205, 348, II: 387 (Mohenjo Daro). Schmökel 1957: 138 (Sumerian stamp in Teil Asmar, imported from India).

13.7 SACRED ANIMAL

Anon. 1935: 89 (Nepal, flesh and blood acceptable to manes; horn as charm against ghosts, spirits and diseases). Briggs 1931 (review). Chakravarti 1906: 370 (Piyadasi, flesh gives pleasure to fathers). Conrad 1968: 253 (sacred in Indus culture). D. 1933: 769 (Nepal, Sadhra ceremony, ideal offering to forefathers is warm blood drawn from stomach immediately after death). Ellison 1925: 35 (Nepal, flesh and blood are pure and acceptable to manes; charm against ghosts and spirits). Keller 1909: 388 (symbol of virtue). Krumbiegel 1960: 19 (Mohenjo Daro). Majupuria 1977: 128 (Hindus). Prater 1965: 230 (Nepal, pleasing to manes; India, value to Hindus and Gurkhas). Ripley 1966: 148 (ceremony of cleansing). Roy 1945: 126 (religious awe of all Hindus of northern India). Shebbeare & Roy 1948: 91 (sacred to all Hindus of northern India). Strehly 1893 (law of Manou 272: flesh gives eternal satisfaction to manes).

13.8 USE AS MEDICINE

Anon. 1935: 89 (Nepal, horn as charm against diseases). Chakravarti 1906: 370 (Piyadasi: flesh as medicine, dung against vomiting). Ellison 1925: 35 (Nepal, urine antiseptic, horn as charm against diseases). Gee 1948a: 107 (Assam, urine antiseptic), 1964: 152 (horns medicinal, assistance in childbirth, elixir of life). Inglis 1878: 214 (Nepal, horn lessens pain of maternity). Majupuria 1977: 128 (medicinal value). Prater 1965: 230. Sumati 1976a: 12.

13.9 USE AS SHIELDS, CUPS, AND UTENSILS

Beavan 1865: 174 (Bhutan, skin for shields). Born 1939: 69 (horn cup from Kashmir, 17th century, in Hapsburg collection, Vienna). Inglis 1878: 214 (Nepal, skin for whips and shields). Martin 1980b: 12 (knife handles, shields). Oldfield 1880: 236 (Nepal, horn as cups, handles for kookeries, hide for waterbuckets). Polo 1956: 291 (Gujarat, manufacture of shields from rhino hide). Rao 1957: 270. H. Wood 1930: 62 (Assam Marwaris, cups; Nagas, hide as shields).

13.10 VARIOUS USES

Ansell 1947: 253 (horn as aphrodisiac to Hindus). Crooke 1926: 257 (Lhota Nagas bury piece of rhino bone near the fields to make the crops grow). Hooper 1910: 518 (horn against poison). Kinloch 1885: 62 (Hindus, detection of poison). Laufer 1914: 112 note 2 (absence of antipoisonous virtues). Marshall 1931, I: 72 (Lhota Nagas, as Crooke 1926). Martin 1980a, b, 1981b: 15 (horn as aphrodisiac to Gujarati, Bengali). Mills 1922: 169 (Lhota Nagas, as Crooke 1926).

CHAPTER 14

CULTURE IN SOUTH-EAST ASIA

14.1 REVIEW

Borner 1979a: 32 (Sumatra). Hubback 1939a: 595, 615-616 (Malaya). Rookmaaker 1977b (Borneo). Sody 1959: 224-231. van Strien 1974a: 57-58.

14.2 GENERAL REPORTS

Bruton 1963: 9. Goldsmith 1840: 530 note. Hobley 1931: 20 (superstitions rooted in 'a form of sympathetic magic'). McKie 1965: 183. Morice 1875: 20. Reynolds 1971: 12. Seshadri 1969: 95-96.

14.3 BEZOAR STONE

Burkill 1935: 1893-1894 (Malaya). Rumphius 1705: 294 (stone from brain against fever).

14.4 EATING OF PARTS

Buddingh 1859: 61 (Java). Couperus 1887: 305 (Java). von Ende 1889: 10 (Java, Baduwis). Harrison 1961b: 91 (Borneo). Higginson 1890: 70 (Chinese in Java, skin). Ho-Van-Cam 1947 (hide). Hubback 1939a: 615 (Malaya, skin roasted like pork cracknel). Gervaise 1688: 35 (Thailand). Kerkhoven 1926: 326 (Java, skin as kroepoek). Meyer 1891: 380 (skin as kroepoek). Moura 1883: 66 (Cambodia, skin). Pallegoix 1854: 156 (Thailand). Pollok 1879, I: 97 (Burma). Shekarea 1832: 314 (Burma). Tillema 1936: 45 (Borneo, skin in soup).

14.5 EXHIBITION IN CAPTIVITY

Moura 1883: 66 (Cambodia, royal palace, fights between rhinos). See also 7.13.2 and 8.12.3.

14.6 FAKE HORNS

Alfred 1961 (Malaya). Grassé 1955: 1109, fig. 1050 (as real). Harrison 1962 (reasons for fake horns). Hooijer 1959a, b, 1974. Hubback 1939a: 615 (trade in Malaya, made from buffalo horn). Neuville 1927: 191-194, pl. 3 (as true *R. sondaicus* horn).

14.7 FOLK TALES

Borneo: Lumbholtz 1921: 386 (tale: 'leaves that baffled Antoh')

Burma: Ansell 1947: 254 (mother throws wood over back killing baby; a bad omen to kill a rhino). Evans 1905: 555 (eating of fire.) Fytche 1878: 104 (eating of fire). Peacock 1933: 74 (mothers toss young over back). Smith 1935: 48 (devours fire and its foes).

Indo-China: Chochođ 1950: 94 (rhino cannot be shot with gun; horn gives light in dark). Giran 1912: 104, 105 (Annam, rhino horn made to resemble a fish makes swimming without danger; finding a horn of 3 thiroc length makes finder amphibic; a "conngoc"-e.g. end of rhino horn-makes invulnerable and invisible). de Monestrol 1925: 21.

14.8 ICONOGRAPHY

Brentjes 1978: 157 (Thailand 'Faltbuch' ca. 1880, R. sondaicus; Cambodia, Angkor Vat, rhino carries Agni). Steinmann 1934: 89 (Java, relief on Borobudur). Stönnér 1925 (Agni seated on rhino in Angkor Vat, Cambodia, 12-13th century), fig. 2 (Agni in Thai manuscript, ca. 1880).

14.9 SACRED ANIMAL

Ansell 1947: 253 (Burma, killing of rhino results in death of a family member). Brentjes 1978: 158 (Cambodia, Angkor Vat). Harrison 1957: 164, pl. Pb, 1961b: 91 (Borneo, Niah, ritual pillow). Neese 1975: 9-11 (Laos, rhino connected with bad spirits), 1976a: 410 (Laos, hunt taboo).

14.10 USE AS CHARM

Borner 1979b (Sumatra). S. Flower 1900: 366. van Hien 1896, II: 38 (Java, horn against accidents). Kops 1919: 94 (Sumatra, horn). Kreemer 1923, II: 597 (Sumatra, horn put in water against witchcraft). Roorda van Eysinga 1843: 95 (Dutch Indies, horn). Veth 1873: 709 (Sumatra, horn against accidents).

14.11 USE AGAINST POISON

Anon. 1872: 318 (horn). Beddard 1902: 255. Burkill 1935: 1893 (Malaya). Cabaton 1914: 94 (Cambodia). Gervaise 1688: 34 (Siam). Gimlette 1929: 186 (Malaya, recipe of horn against poison). Kloppenburg-Versteegh 1915: 300. Marsden 1811: 116 (Sumatra). Müller & Schlegel 1845: 189 (horn). Redi 1671: 98 (rejection of virtues). Talbot 1960: 169. Turpin 1811 (Thailand). Veth 1873: 709 (Sumatra).

14.12 USE AS APHRODISIACUM

van Bemmél 1969: 69 (Indonesia). Borner 1979b (Sumatra). Harrison 1956: 270 (Borneo, palang). Jongejans 1922: 176 (Borneo, water poured through rhino penis above head of woman to induce child conception). Martin 1980b: 25 (N. Thailand, penis rarely used). Skeat 1900: 150 (Malaya). Street 1961: 101. Tillema 1936: 45 (Borneo).

14.13 USE AGAINST SNAKE-BITES

Bleeker 1858: 313 (cure not proven). Bock 1881: 279 (Sumatra). van der Burg 1885: 211 (Java). van Hasselt 1861: 130-131 (horns cannot cure snake bites, experiments on dogs failed, only sympathetic medicine). van Hien 1896, II: 38 (Java). Higginson 1890: 70 (Java, horn against bites of snakes and scorpions). Hofland 1846 (horn cured snake-bite in 5 cases). Kops 1919: 94 (Sumatra, horn against bites of snakes and scorpions). Lamster 1930. Ludeking 1860: 122 (Dutch Indies, soenga badak). Mandt 1857 (Dutch Indies). Perelaer 1867: 553 (Java). Thepass 1860: 575 (Dutch Indies, experiments on dogs failed).

14.14 USE AS MEDICINE

van Andel 1909: 133 (rachitis). Ansell 1947: 253 (Burma, blood and other parts). van Bemmelen 1969: 69 (Indonesia). Blyth 1862a: 168 (Thailand, effluvia dangerous to health causing cholera etc.). Bock 1881: 276 (Sumatra, horn), 1884: 294-295 (Laos, dried blood). Borner 1979b (Sumatra, many diseases). van der Burg 1885: 211 (Java, against exhausting diseases, lung cancer, tetanus, proctitis, haematemesia; teeth against fever). Burkill 1935: 1893-1894 (Malaya). Cabaton 1914: 94 (Cambodia, heart, horn, skin, blood, teeth and left toenail as medicine). Dammernan 1929a (Indonesia, horn). Fytche 1878: 106 (Burma). Gervaise 1688: 34-35 (Thailand, all parts, especially horn and blood). Grim 1677 (successful use of horn against acid elements in knee by R. van Goens in Nagapatnam, S. India). Harrison 1974: 278 (Malaya). Hazewinkel 1936: ii (horn). van Hien 1896, II: 38 (Java, horn curing mad dog bites, vegetable poison and scurf). Ho-Van-Cam 1947 (horn). Hooper 1910: 518 (Burma, urine against enlarged spleen, dried blood medicinal). Hijmans van Anrooij 1885: 276 (Sumatra). Kloppenburg-Versteegh 1915: 300 (tranquilliser). Kremer 1915: 77 (Java, horn curing mad dog bites, vegetable poison, scurf and to strengthen body). Kruyt 1906: 127 (Java, teeth to help remove splinters, bullets, fish bones etc.). Lekkerkerker 1916: 109 (Sumatra). Low 1850: 427 (Malaya, horn). Lumholtz 1921: 59 (Borneo). Martin 1980a, 1980b: 17-26 (horn, skin, hoofs etc. in traditional medicine). Maxwell 1906: 36 (Thailand, 'medicine to make an elephant fat' using rhino skin). Metcalfe 1961: 186 (Malaya). Meyer 1891: 380 (Java, horn against diseases of the breast, bruises; skin against insects). de Monestrol 1925: 20 (Indo-China). Pollok 1879, I: 97 (Burma, dried tongue). Ripley 1966: 148. Talbot 1960: 169. Tillema 1936: 45 (Borneo). Turpin 1811 (Thailand, blood against breast disorder in women).

14.15 USE FOR UTENSILS

Banks 1978: 224 (Borneo, knife handles, sword hilts). Couperus 1887: 305 (Java, whip). Lekkerkerker 1916: 109 (Sumatra, whip). Turpin 1811: 620 (Thailand, shield). Veth 1873: 709 (Sumatra, whip).

14.16 VALUE OF RHINO TEETH

van der Burg 1885: 211 (Java, milk teeth of lower jaw against fever). Gimlette & Burkill 1930: 351, 464 (Malaya, to cure ulceration of vagina). Kerkhoven 1926: 326 (Java, rudimentary incisors as charms). Knebel 1898: 502 (Java, amulet). Koningsberger 1902: 61 (Java, incisors as amulet). Martin 1980b: 78 (use of teeth

not found). Medway 1958 (Borneo, teeth in human grave at Niah, possibly valued as charms). Meyer 1891: 380 (Java, incisors as charm).

14.17 GEOGRAPHICAL INDEX

Borneo: Banks 1931: 20-21, 1937, 1978: 224. Harrisson 1956: 268, 270, 1957: 164, 1961b: 91. Jongejans 1922: 176. Lumholtz 1921: 386. Medway 1958. Pfeffer 1958: 128. Rookmaaker 1977b. Tillema 1936: 45.

Burma: Ansell 1947: 254. Evans 1905: 555. Fytche 1878: 104-106. Hooper 1910: 518. Peacock 1933: 74. Pollok 1879, I: 97. Shekarea 1832: 314. Smith 1935: 48.

Indo-China: Bock 1884: 294. Cabaton 1914:94. Chochod 1950: 94. Giran 1912: 104. de Monestrol 1925: 20. Morice 1875: 20. Moura 1883: 66. Neese 1975: 9, 1976a: 410.

Java: Buddingh 1859: 61. van der Burg 1885: 211. Couperus 1887: 305. Dammerman 1929a, von Ende 1889: 10. van Hien 1896, II: 38. Higginson 1890: 70. Kerkhoven 1926: 326. Knebel 1898: 502. Koningsberger 1902: 61. Kreemer 1915: 77. Kruyt 1906: 127. Meyer 1891: 380. Perelaer 1867: 553. Steinmann 1934.

Malaya: Alfred 1961. Burkill 1935: 1893. Gimlette 1929: 186. Gimlette & Burkill 1930: 351, 464. Harrison 1974: 278. Hubback 1939a: 615. Low 1850: 427. Metcalfe 1961: 186. Skeat 1900: 150.

Sumatra: Bock 1881: 279. Borner 1979a: 32, 1979b. Kops 1919: 94. Kreemer 1923, II: 597. Lekkerkerker 1916: 109. Marsden 1811: 116. Veth 1873: 709.

Thailand: Blyth 1862a: 168. Brentjes 1978: 157. S. Flower 1900: 366. Gervaise 1688: 34. Maxwell 1906: 36. Pallegoix 1854: 156. Stönnner 1925. Turpin 1811.

CHAPTER 15

CULTURE IN CHINA

15.1 REVIEW

Giles & Giles 1915. Imbert 1921. Jenyns 1955. Laufer 1914.

15.2 GENERAL REPORTS

Hirth 1894 (Shan-hai-Ching mentioned presence of white rhinoceros in Kin-ku, possibly Annam). Laufer 1914: 146-147 (rhino without joints; regular shedding of horn). Sowerby 1939: 8 (legends of chi-lin originate in, but cannot identified with, the rhinoceros). Symes 1811: 454 (emperor in 1795 had never seen a rhinoceros).

15.3 ART AND ICONOGRAPHY

Bishop 1933: 325 (bronze vessel of Shang period). Bland 1926 (statuette from Honan, Chow dynasty 1100-250 B.C., Eumorfopoulos collection). Brentjes 1973: 252, fig. 4 (bronze statue of *D. sumatrensis* from Shang-Yin time, 2nd century B.C., possibly captive specimen), 1978: 155, fig. 8 (bronze vase with double-horned rhinoceros, Shang period 12th-11th century B.C.). Bushell 1874: 154 (stone drums of Chou dynasty), 1904: 91 (vase in form of rhinoceros, Chou dynasty). English 1977 (statue from Shensi province). Harrison 1956: 269 (statuette of double-horned rhinoceros, 11th century B.C.). Hopkins 1939 (bone figure of Honan province, Shang Yin time). Jenyns 1955: 38-39, 44-49 (review; objects made from hide and horn). Laufer 1914: 106-109, 129-132 (review). Schefer 1895: 10 (rhino on belt buckles, 11th century). Sowerby 1934 (double-horned rhino on belt buckles, Tang dynasty). Sullivan 1973: 44, pls. 14-15 (ritual vessel in form of double-horned rhino, Shensi province, 3rd-2nd century B.C.).

15.4 CLASSIFICATION

Bishop 1933: 322 (ssu and hsi both denote rhinoceros after Han times; earlier meaning uncertain, ssu probably bovine animal). Brentjes 1973: 252 (two species known). Chavannes 1898: 502 (Se-ma ts'ien probably mentioned two species). Giles & Giles 1915 (criticise Laufer 1914, hsi and ssu both translated as 'some bovine animal', not rhinoceros). Jenyns 1955: 31-35 (ssu is bovine animal, hsi is rhinoceros; after Han times both denote the rhinoceros). Laufer 1914 (meaning of se and si), p. 109-111 (rhinoceros with cervine character), p. 116-124 (Tibetan name). de Paravey 1848 (Chinese knew 5 kinds: with 3 horns; with 2 horns; with 1 nasal horn; with 1 horn on forehead; with 1 horn on head). Pelliot 1902: 167 (Tcheou Ta-kouan, Yuan dynasty, mentioned 2 kinds of horns in Cambodia: white (good) and black).

15.5 EXHIBITION IN CAPTIVITY

Brentjes 1965: 93 (Yin period). Hirth 1894 (Peking, 84 A.D. from Annam). Imbert 1921: 222 (Peking, 2nd, 8th and 13th centuries). Loisel 1912, I: 39 (Ciandu). Laufer 1914: 80 note 2 (tributes of living rhinos to China). Needham et al. 1971: 442 (in A.D. 2). Reynolds 1971: 13.

15.6 HORN CUPS

Born 1939: 69 (cups in Hapsburg collection, Vienna, 17th century). Bretshneider 1910: 153. Busbell 1904: 119 (carving of rhino horn in Canton, from Han dynasty). Casal 1938, 1940 (use, date, artists). Harrisson 1956: 272-273, 1962 (reason for fake cups). Imbert 1921: 223-230 (use and importance of horn in China). Jenyns 1953: 20 (4 carved cups Sloane collection, British Museum), 1955: 49-57 (review, most existant specimens described). Lamster 1930 (carved cup in Koloniaal Instituut, Amsterdam). Martin 1981b: 12. Sody 1959: 224 (cup in Ethnographisches Museum, Mülhausen). Thoma & Brunner 1964: 221-222 (2 cups of 16th century in Munich collection). Williams 1856: 154.

15.7 PROPERTIES OF RHINOCEROS PARTS

Bishop 1933: 328 (detection of poison in post-Han times). Bretshneider 1875: 19 (anti-poisonous properties of horn, mentioned by Shen nung pen ts'ao 2700 B.C.; not imported from India), 1910: 153 (horn against poison, mentioned by Shen nung in 2700 B.C. and later). Clement 1907: 20, 24 (Japan, horn in medicinal folklore, against fever; rhino pills cure every disease). Ettinghausen 1950: 101-142 (influence of Chinese ideas about "unicorn" on Muslim literature). Harrisson 1962. Imbert 1921: 223-230 (importance of use of horn). Jenyns 1955: 39-43 (use of hide and horn, development of supernatural powers of horn). Laufer 1914: 136-153 (use in materia medica), 166-172 (use of horn), 153-155 note 2 (development of antipoisonous virtues of horn), 159-161, 175-183, 257 (use of hide as armour). Marquart 1903: 87 (golden horn as amulet, S. China, 10th century). Martin 1981b: 12. Needham et al. 1971: 673 (horn enables to breath in the water). Regnault 1902: 185 (hide and "petite corne du rhinocéros bicorné" used as medicine). Rookmaaker 1977b: 295 (beliefs of Chinese in Borneo). Schefer 1895: 9-10 (Chinese beliefs mentioned by Mesopotamians). Soubeiran & de Thiersant 1874: 47 (horns used as cups and medicine; jelly of skin and bones and bone-scrappings as medicine). Sowerby 1939: 8-9 (horn against poison, as medicine, against demon possession and giving strength and courage).

15.8 TRIBUTES

Chavannes 1904: 51, 76 (after Tch'e fou yuen koei 1013, king of Persia gave rhino horns to Chinese in 730 and 746). Deveria 1880: 41, 88 (king of Annam visited Peking in 1790, took rhino horns as tribute). Duyvendak 1949: 10 (tribute from Huang-chich, 2 A.D., not Ethiopia, possibly India). Herrmann 1913 (tribute from Huang-tschi, 2 A.D., possibly from Abyssinia). Hirth 1885: 42 (after Hou-hon-shu, horn from Annam as tribute to China in 166), 1894 (white rhinoceros as tribute from Annam to Peking in 84). Jenyns 1955: 38 (tribute in 2 A.D.). Needham et al. 1971: 442, 444 (in 2 A.D. and sent to Ethiopia).

CHAPTER 16

TRADE

16.1 REVIEW

Martin 1980b, c 1981b (see IUCN 1980). Parker & Martin 1979. Stonehouse 1981: 58.

16.2 EXTENT OF TRADE

Anon. 1969c (from Mombasa). Banks 1978: 224 (Borneo, trade to China since 1918). Borner 1981 (present trade). da Cruz 1979 (suggestion to lessen slaughter of rhinos). Dammerman 1929a (export from Indonesia 1919-1927). Eekhout 1900: 545 (China trade with Java in Tang dynasty). Faunthorpe 1924b: 206 (demand in S.E. Asia). Godbey 1939: 262, 273 (Romans traded horns from Africa to China; China was source of demand for rhino horn in Roman times). Groeneveldt 1880: 13 (Tang dynasty, Java produced rhino horn). Gromier 1933: 268 (Chad, ca. 5000 killed in 2 years). Harrison 1956: 264, 268, 273 (rhino parts no value to Borneans; trade from Borneo to China in Tang dynasty). Hillman & Martin 1979 (Kenya, export 1972-76). Jenyns 1955: 36, 43 (trade of China with Africa, after 10th century). Lamster 1930 (early trade between Africa and China). Laufer 1914: 165 note 3 (Chinese trade in horns). Martin 1980b, c (extent of present trade in Africa and Asia, statistics). Monks 1977 (export from Kenya 1969-1976). Needham et al. 1971: 444, 496, 537 (Chinese trade with Borneo and Africa). Rookmaaker 1980c. Seshadri 1969: 101 (Calcutta, 5000-20,000 horns). Swara & Hillman 1979 (recent trade figures). Wheatley 1959: 77, fig. 6 (Sung dynasty in China, import of horn from India, N. Malaya, Indo-China, Java and Africa). Williams 1856: 154 (import to China from Cochinchina, India and possibly Africa, price and quantity).

16.3 PRICES OF RHINO PARTS: AFRICA

Baker 1890: 95 (in 1860). Blancou 1935b: 59 (in 1928). Burton 1860, II: 413. Christy 1923: 63 (Sudan). Fonck 1924: 114 (export to China). Heymans & Colyn 1981: 163. Hillman & Martin 1979: 131. MacKenzie 1953: 5 (Sudan). Meyer 1909: 386 (E. Africa). Monks 1977 (Kenya).

16.4 PRICES OF RHINO PARTS: ASIA

General: Hilzheimer 1935: 1502 (Antwerp 1914-1928). McKie 1965: 183 (horn, blood, skin). Martin 1980b: 30-33. Williams 1856: 154 (horn).

Borneo: Banks 1931: 20. Lumholtz 1921: 59 (horn). MacKinnon 1970 (Sabah). Medway 1958: 637. Pfeffer 1958: 129. Tillema 1936: 45.

Burma: Ali & Santapau 1959. Milton 1961: 106. Pollok 1879, I: 96.

India: Das 1969: 790. Gee 1964: 152. Hobley 1931: 20. Martin 1981a. Roy 1945: 125. Shebbeare 1935: 1229 (Assam). Shebbeare & Roy 1948: 90 (horn, blood, urine, skin, meat). Street 1961: 101. Wood 1930: 20.

Indo-China: Bock 1884: 295 (Laos, blood). Cheminaud 1939: 78. Millet 1930: 193 (Laos). Morice 1875: 20. Reinach n.d.: 271 (Laos).

Java: Appelman 1930: 586. Couperus 1887: 305. Higginson 1890: 70. Kerkhoven 1926: 326 (skin). Meyer 1891: 380.

Malaya: Hubback 1939a: 615. Koffend 1974: 10.

Nepal: Daukes 1934. Smythies 1953: 219.

Sumatra: Bock 1881: 279. Hijmans van Anrooy 1885: 276. Kops 1919: 93. Kreemer 1922, I: 193. Milton 1964c: 183. Schneider 1906: 125. Street 1961: 111.

CHAPTER 17

CULTURE IN EUROPE AND AMERICA

17.1 ART

Note: Rhinoceros representations made before 1800 were included in chapter 3. Clarke 1976: 15 (ceramics after 1800). S. Dittrich 1977 (drawing by Walter Ritzenhofen, 1975). Reynolds 1963a: 103 (black rhinos used in movies). Rieth 1974: 85 (litho Bernhard Jäger, ca. 1974). M. Ryhiner 1952: 69 (Blechr relief Erich Müller, 1927). Weber 1942: 201, fig. 6 (sculpture of *R. unicornis* by Joseph Pallenberg).

17.2 LITERATURE, PLAYS AND STORIES

Damjan n.d. (children's story). Fleming 1956: 9-13 ("My aunt's rhinoceros", short story). Ionesco 1959 (play with rhinoceros). Kearney & Vyvyan 1965 (story of hand-rearing in Kenya). Kipling 1921: 27-36 ("How the rhinoceros got his skin"). Koenig 1965 (children's story on rhino family in Kenya). Livingstone 1977 (play on rhinoceros). Phipson 1883: 113 (rhinoceros in Shakspeare). Silverstein 1972 (cartoon).

BIBLIOGRAPHY

ANONYMOUS PUBLICATIONS:

- ANON. 1733. Catalogue de plus rares & plus curieuses choses qui se trouvent a voir journellement dans la Galerie du célèbre Jardin de l'Academie dans la ville de Leide. Leide.
- 1751. Uncommon natural curiosities shewn this month in London. *Gentleman's Magazine*, 21: 571.
- 1765. Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, par une Société des gens de lettres, XIV: i, 949. Neufchâtel, Samuel Faulche & Co.
- 1777. Nieuwe algemene beschrijving van de Kaap de Goede Hoop, I: iii, viii, 486. Amsterdam, Petrus Conradus/Harlingen, Volkert van der Plaats.
- 1780. Erläuterung einiger Merkwürdigkeiten des Nasenhorns. *Neues Hamburgisches Magazin*, 117: 258-268.
- 1814. Natuurlijke historie van den rhinoceros, of het neushoorn-dier. *Vaderlandsche letter-oefeningen*, 1814(2): 641-646.
- 1823. Ueber das asiatische Rhinoceros. *Notizen aus dem Gebiete der Natur- und Heilkunde*, 4(9): 137.
- 1835-36. The rhinoceros. *Dublin Penny Journal*, 1835-36: 68-69, 1 fig.
- 1851. Opsomming der thans bekende zoogdieren van den Indischen Archipel, getrokken uit de Zoölogy of the Voyage of H.M. Ship Samarang (Lond. 1850). *Natuurkundig tijdschrift voor Nederlandsch Indië*, 2: 443-455.
- 1855. Le rhinocéros du Roi Emmanuel: son triomphe et sa mort. *Magasin pittoresque*, 23: 202-203.
- 1870. Accident to the rhinoceros at the zoological gardens. *Field*, 36: 152.
- 1872. De rhinoceros. *Kennis en kunst*, Haarlem, 1872: 314-315, 318-320.
- 1873. Verwüstungen durch ein losgerissenes Nashorn. *Zoologische Garten*, (A.F.) 14(3): 118.
- 1879. Ein rasendes Rhinoceros an Bord eines Schiffes. *Zoologische Garten*, (A.F.) 20(5): 157.
- 1884. De olifant en de rhinoceros op Borneo. *Tijdschrift van het Koninklijk Nederlandsch aardrijkskundig genootschap*, (2)1: 400-401.
- 1891. Alter eines Nashorn, Rhinoceros bicornis, im Londoner zoologischen Garten: Report. *Zoologische Garten*, (A.F.) 32(5): 155.
- 1895. Le Samatra rhinoceros in the Leipzig zoological garden. *Scientific American*, 72(16): 245, 1 fig.
- 1896. Geschäftsbericht des Breslauer zoologischen Gartens für das Jahr 1895. *Zoologische Garten*, (A.F.) 37(9): 278-283.
- 1909. A record great Indian rhinoceros (Rhinoceros unicornis). *Journal of the Bombay natural history society*, 19(3): 746.
- 1918. Death of the Indian rhinoceros. *Zoological society bulletin*, New York, 21(5): 1673.
- 1924. Indian rhino, young female. *Zoological society bulletin*, New York, 27(3): 72, 1 fig.
- 1929. Nachrichten aus Dresden, 1928. *Zoologische Garten*, (N.F.) 1: 450.
- 1930a. Kenya: slaughter of rhinos. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 11: 51-54.
- 1930b. Nachrichten aus Dresden. *Zoologische Garten*, (N.F.) 2: 352-353.
- 1931. Führung durch den zoologischen Garten am Montag, 8. September 1930, 17. Uhr. *Zeitschrift für Säugetierkunde*, 6(1): 35.

- 1935. The wild animals of the Indian Empire and the problem of their preservation, part III. *Journal of the Bombay natural history society*, 37(1) Supplement: 57-96, pls. 15-36.
- 1937a. Wildreservaten ook in Borneo. *Indische Gids*, 59(1): 273-274.
- 1937b. Wildreservaat in de Lampongsche districten. *Indische Gids*, 59(1): 559-561.
- 1937c. Expeditie naar den Goenoeng Loeser in Atjeh. *Indische Gids*, 59(1): 561-562.
- 1943. Peggy, the Indian rhinoceros. *Fauna*, Philadelphia, 5(2): 60, 1 fig.
- 1946. The Sudan. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 53: 35-36.
- 1948. More game enter Zululand. *African wildlife*, 1(4): 31-32.
- 1951. [Review of:] Nature notes from King George V national park. *Malayan nature journal*, 5(4): 201-203.
- 1952. A rhinoceros at last! Meet our gal Sal. *Zoonooz*, San Diego, 25(10): 2-3, 3 figs.
- 1953a. Coquette. *Zoonooz*, San Diego, 26(3): 8, 1 fig.
- 1953b. Stones for Sally. *Zoonooz*, San Diego, 26(6): 7, 1 fig.
- 1953c. A male black rhinoceros. *Zoonooz*, San Diego, 26(8): 6.
- 1958a. Rumping rhinos. *Zoonooz*, San Diego, 31(5): 13, 4 figs.
- 1958b. The large mammals of Borneo. *IUCN Bulletin*, 7(1/2): 1-2.
- 1960a. Elephant and rhino. *African wildlife*, 14(2): 162.
- 1960b. Annual report of the biologist, 1958/1959. *Koedoe*, 3: 1-205.
- 1961. Combien reste-t-il de rhinocéros noirs en Afrique? *Terre et la vie*, 108: 159.
- 1963a. White rhino conservation. *Africana*, 1(6): 11.
- 1963b. Rupert. *Oryx*, 7(1): 22-25, 5 figs.
- 1963c. Les effectifs mondiaux des cinq espèces de rhinocéros. *Terre et la vie*, 110: 102.
- 1964a. Square-lipped rhinoceros. *IUCN Bulletin*, (N.S.) 1(12): 5.
- 1964b. Bristol zoo. *Animals*, 5(4): 114.
- 1965a. London zoo. *Animals*, 5(13): 360.
- 1965b. Black rhino born. *International zoo news*, 12(1): 11.
- 1965c. Ngorongoro rhino. *IUCN Bulletin*, (N.S.) 1(16): 5.
- 1965d. Rhinos come to Swaziland. *Oryx*, 8(1): 32.
- 1965e. Witte neushoorn. *Panda-Nieuws*, 1(9) in *Blijdorp-Gehuiden*, Rotterdam, 13(5): iii, 1 fig.
- 1966a. White rhino in Kenya. *Africana*, 2(8): 19, 3 figs.
- 1966b. Hluhluwe, South Africa. *Animals*, 8(18): 484.
- 1967a. Sumatran rhino sets a problem. *Animals*, 9(9): 511.
- 1967b. Great Indian rhino. *Animals*, 9(12): 663.
- 1967c. Rhino and crocodile. *Animals*, 9(12): 664.
- 1967d. Neushoorns I. *Artis*, Amsterdam, 13(4): 111.
- 1967e. Neushoorns II. *Artis*, Amsterdam, 13(4): 111.
- 1967f. Rhino and elephant work in Kenya. *Oryx*, 9(3): 173-174.
- 1967g. Boat for rhino reserve in Malaya. *Oryx*, 9(3): 187.
- 1967h. Nieuws van de neushoorn. *Panda-Nieuws*, 3(5) in *Blijdorp-Gehuiden*, Rotterdam, 15(1): iv.
- 1968a. Indian rhino born. *Animal kingdom*, 71(3): 34, 1 fig.
- 1968b. Black rhino born. *Animal kingdom*, 71(4): 30, 1 fig.
- 1968c. Die dratijd van die breëlip- of witrenoster. *Newletter of the Department of Nature conservation Transvaal*, 66: 4.
- 1968d. White rhinos in Uganda. *Oryx*, 9(5): 326.
- 1968e. Moving black rhinos. *Oryx*, 9(6): 410.
- 1968f. Birth in Loskop Dam nature reserve. *Oryx*, 9(6): pl. 11.
- 1968g. Birth of a rhino. *South African digest*, 15(32): 15, 1 fig.
- 1968h. Viertes deutsches Spitzmaulnashorn in Hannover. *Tier-Illustrierte*, 1968(4): 133-134.
- 1969a. White rhino for Mozambique. *African wildlife*, 23(4): 343.
- 1969b. Rhinoceros birth. *Animals*, 12(6): 274-275.
- 1969c. Wild-trofeën. *Artis*, Amsterdam, 14(6): 183.
- 1969d. Sumatraanse neushoorn. *Panda-Nieuws*, 6(1): 5.

- 1970a. Black rhino rescue campaign. *African wildlife*, 24(3): 255.
- 1970b. Sumatran rhinos. *Animals*, 13(3): 133.
- 1970c. General news. *Chester zoo news*, May 1970: 16.
- 1970d. White rhinos for Mozambique. *Oryx*, 10(4): 257.
- 1970e. White rhinos for Whipsnade. *Oryx*, 10(5): 325.
- 1970f. Rescues in Rhodesia. *Oryx*, 10(6): 361.
- 1970g. Black rhinos tracked by radio. *Science Journal*, 6(4): 12-13, 1 fig.
- 1970h. Rare white rhino herd. *International zoo news*, 17(3): 75.
- 1970i. Second white rhino born. *International zoo news*, 17(5): 168.
- 1970j. Pregnant Indian rhino. *International zoo news*, 17(5): 168.
- 1971a. Black rhinos moved 600 miles to sanctuary. *African wildlife*, 25(2): 54-57, 2 figs, 1 map.
- 1971b. Births. *Chester zoo news*, March 1971: 2-4, 1 fig.
- 1971c. White rhino born. *International zoo news*, 18(5): 175.
- 1971d. The need for the conservation of Taman Negara. *Malayan nature journal*, 24(3/4): 196-205, figs. 1-5.
- 1971e. Indian rhino in Nepal. *Oryx*, 11(1): 10.
- 1971f. Javan rhino births. *Oryx*, 11(1): 12.
- 1971g. Neushoorn in Nepal bedreigd. *Panda-Nieuws*, 7(4): 34, 1 fig.
- 1971h. Puntlipneushoorns verhuist. *Panda-Nieuws*, 7(4): 34-35.
- 1971i. Die Nashorn-Ueberraschung von Hannover. *Tier*, 11(7): 48, 1 fig.
- 1972a. Rhinos slaughtered. *Animals*, 14(12): 568.
- 1972b. Neushoorns. *Artis*, Amsterdam, 18(3): 75.
- 1972c. New rhino. *Fauna & Flora*, Pretoria, 23: 21, 1 fig.
- 1972d. Black rhino in SW Africa. *Oryx*, 11(5): 313.
- 1972e. Javan rhinos increase. *Oryx*, 11(5): 315.
- 1972f. Rhino poaching threat. *Oryx*, 11(6): 424-425.
- 1972g. Death of a rhino. *Oryx*, 11(6): 425.
- 1973a. Zoo news. *Animals*, 15(4): 182-183, 1 fig.
- 1973b. Kumar. *Artis*, Amsterdam, 19(3): 74.
- 1973c. Mammal births. *Chester zoo news*, December 1973: 3, 5.
- 1973d. Black rhinos established in Rhodesian reserve. *International zoo news*, 20(2): 56.
- 1973e. White rhinos at Kahalega. *Oryx*, 12(1): 30.
- 1973f. Black rhinos to Rhodesia. *Oryx*, 12(2): 178.
- 1973g. Javan rhinos increase. *Oryx*, 12(2): 179.
- 1973h. Poaching rhino in Nepal. *Oryx*, 12(2): 179.
- 1973i. Witte neushoorn. *Panda-Nieuws*, 9(9): 85.
- 1973j. Intensive care for baby rhinos. *Zoonooz*, San Diego, 46(2): 16-18, 5 figs.
- 1973k. Noteworthy reproduction. *Zoonooz*, San Diego, 46(6): 14-16, 8 figs.
- 1974a. First white rhinos come to Philadelphia. *International zoo news*, 21(5): 216.
- 1974b. Fencing rhinos in. *Oryx*, 12(4): 424.
- 1974c. Javan rhino poachers defeated. *Oryx*, 12(5): 517.
- 1974d. Sumatran rhinos in Thailand? *Oryx*, 12(5): 543.
- 1974e. The birth of an Indian rhinoceros. *Zoogoer*, Washington, 3(2): 3-7, 4 figs.
- 1976a. Rhino discovery in Malaysia. *Oryx*, 13(4): 321-322.
- 1976b. White rhino birth. *Zoonooz*, San Diego, 49(12): 15, 1 fig.
- 1976c. Black rhino birth. *Zoonooz*, San Diego, 49(12): 17, 1 fig.
- 1977a. Amboseli exit? *Artis*, Amsterdam, 23(4): 120-121, 4 figs.
- 1977b. Javan rhino census. *Oryx*, 13(5): 438.
- 1978a. Rare rhino born at Wild animal park. *Animal keeper's forum*, 5(2): 61.
- 1978b. Witte neushoorns. *Artis*, Amsterdam, 24(2): 67, 1 fig.
- 1978c. Lisbon's three-horned black rhinoceros. *International zoo news*, 25(5): 10-11.
- 1978d. Preserving Endau-Rompin for rhinos. *Oryx*, 14(4): 293.
- 1979. A new chance to save the rhino? *Swara*, Nairobi, 2(2): 20-21, 1 fig.
- 1981a. Unusual pedicure for Brookfield black rhino. *International zoo news*, 28(3): 41-42.
- 1981b. Sumatran rhino killed in eastern Sabah. *International zoo news*, 28(4): 41-42.

- ABEL, Othenio, 1919. Die Stämme der Wirbeltiere: xviii, 914. Berlin & Leipzig, de Gruyter.
- ABELAERDUS, Petrus, (12th century). Opera omnia. In: J.P. Migne, Patrologiae cursus completus Latinae, vol. 178.
- ACHARD, P.L. & B. McCULLOCH, 1967. Creation of a zoo in Tanzania - Saanane island game reserve. *International Zoo Yearbook*, 7: 235-240.
- ADAMS, Arthur, 1861. Beetling at the Cape and in Java. *Zoologist*, 19: 7325-7329.
- ADOLF FRIEDRICH, Herzog zu Mecklenburg, 1909. Ins innerste Afrika: Bericht über den Verlauf der deutschen wissenschaftlichen Zentral-Afrika-Expedition 1907-1908: xii, 476. Leipzig, von Klinkhardt & Bierman.
- , 1921. Vom Kongo zum Niger und Nil: Berichte der deutschen Zentralafrika-Expedition 1910/1911, 3rd ed., I: x, 324. Leipzig, Brockhaus.
- AELIANUS (ca. 150). De Natura Animalium, XVI 20 and XVII 44.
- AGATHARCHIDES OF KNIDOS (ca. 150 B.C.). Mare rubrum, 71.
- AITKENS, Ferdinand, [1905]. The sportman's guide to North-Western Rhodesia, the big game country. London, Commercial Intelligence.
- ALANUS DE INSULIS (13th century). Liber in distinctionibus dictionum theologicarum. In: J.P. Migne, Patrologiae cursus completus Latinae, vol. 210.
- ALBERUNI, 1910. Alberuni's India: an account of the religion, philosophy, literature, geography, chronology, astronomy, customs, laws and astrology of India about A.D. 1030. English edition, with notes and indices, by Edward C. Sachau, I: li, 408. London, Kegan Paul, Trench, Trübner & Co.
- ALBINUS, Bernardus Siegfried, 1747. Tabulae skeleti et musculorum corporis humani. Lugduni Batavorum, Johannem et Hermannum Verbeek. (English edition: Tables of the skeleton and muscles of the human body. London, Knapton, 1749).
- ALBUQUERQUE, Afonso de, 1884a. The Commentaries of the great Afonso Dalboquerque, second viceroy of India. Translated from the Portuguese edition of 1774, with notes and an introduction, by Walter de Gray Birch, IV: xxxv, 324. London, Hakluyt Society, vol. 69.
- , 1884b, 1898. Cartas: seguidas de documentos que es elucidam, I (1884b): xxi, 448; II (1898): lviii, 456. Lisbon, Academia Real das Sciencias.
- ALCANTARA, Mario de, 1956. The national park of Gorongosa. *Oryx*, 3(6): 298-302, 2 pls, 1 map.
- ALDROVANDI, Ulisse, 1621. Quadrupedum omnium bisulcorum historia: xi, 1040, xii. Bononiae, S. Bonhommius.
- , 1623. De quadrupedibus solidipedibus volumen integrum: vii, 224 + index. Francofurti, Joannis Treudel.
- ALÈS, Adhémar d', 1936. Tertullianea: le rhinocéros et le symbolisme de la croix. *Recherches des sciences religieuses*, 26(1): 99-100.
- ALEXANDER, Ann & Ian C. PLAYER, 1965. A note on the nuchal hump of the square-lipped rhinoceros, *Ceratotherium simum sinum* (Burchell). *Lammergeyer*, 3(2): 5-9, pls. 1-2, fig. 1.
- ALEXANDER, Boyd, 1907. From the Niger to the Nile, II: xi, 420. London, Edward Arnold.
- ALEXANDER, James Edward, 1838. An expedition of discovery into the interior of Africa, through the hitherto undescribed countries of the Great Namaquas, Boschmans, and Hill Damaras, I: xxiv, 302; II: viii, 306. London, Henry Colburn.
- ALFRED, Eric R., 1961. Imitation rhino horns. *Malayan nature journal*, 15(1/2): 39-40, pls. 18-19.
- ALL, Salim A., 1927a. The Moghul emperors of India as naturalists and sportsmen, part I. *Journal of the Bombay natural history society*, 31(4): 833-861, 3 pls.
- , 1927b. The breeding of the Indian rhinoceros (*Rhinoceros unicornis*) in captivity. *Journal of the Bombay natural history society*, 31(4): 1031.
- , 1950. The great Indian one-horned rhinoceros (*Rhinoceros unicornis* Linn.) in Assam Province, India. Pp. 470-472 in: Proceedings and papers, International technical conference on the protection of nature, Lake Success, 1949: xi, 583. Paris/Bruxelles, I.U.C.N.
- & H. SANTAPAU, 1958a. Birth of a great Indian rhinoceros in captivity. *Journal of*

- the Bombay natural history society*, 55(1): 157-158, 1 pl.
- & —, 1958b. Rediscovery of the smaller Asiatic one-horned rhinoceros (*Rhinoceros sondaicus* Desmarest) in Malaya. *Journal of the Bombay natural history society*, 55(3): 554-556, 1 pl.
- & —, 1959. Present status of the two-horned rhinoceros, *Didermoceros sumatrensis* (Fischer) in the Schwe-U-Daung reserve, Burma. *Journal of the Bombay natural history society*, 56(3): 625.
- ALLAMAND, Johannes Nicolaas Sebastiaan, [1781]. Addition aux articles du rhinocéros. Pp. 9-13, pl. 5 in: Buffon, G.L. Leclerc de & L.J.M. de Daubenton, Histoire naturelle, générale et particulière, avec la description du Cabinet du Roi, Nouvelle édition, supplément vol. 5: vii, 225. Amsterdam, J.H. Schneider. (Date on title-page: 1785.)
- , 1782. Addition à l'article du rhinocéros. Pp. 78-84, pl. 6 in: G.L. Leclerc de Buffon, Histoire naturelle, générale et particulière, servant de suite à l'histoire des animaux quadrupèdes, Supplément vol. 6: viii, 405, xv. Paris, Imprimerie royale.
- , 1785. Bijvoegzel tot de natuurlijke historie van den rhinoceros. Pp. 1-7, pl. 1 in: G.L. Leclerc de Buffon, De algemeene en bijzondere natuurlijke historie, vervolg van de historie der viervoetige dieren, Supplement, vol. 16: iv, 202. Amsterdam, J.H. Schneider.
- ALLBROOK, D.B., A.M. HARTHOORN, C.P. LUCK & P.G. WRIGHT, 1958. Temperature regulation in the white rhinoceros. *Journal of physiology*, 143: 51P-52P.
- ALLEN, Glover Morrill, 1914. Mammals from the Blue Nile valley. *Bulletin of the Museum of comparative zoology at Harvard College*, 58: 303-357, figs. 1-3.
- , 1939. A checklist of African mammals. *Bulletin of the Museum of comparative zoology at Harvard College*, 83: 1-763.
- , 1940. The mammals of China and Mongolia, part 2: xxvii, 621-1350. New York, American Museum of natural history.
- ALLEN, J.A., 1914. Mammals from British East Africa, collected on the third African expedition of the American Museum by William S. Rainsford. *Bulletin of the American museum of natural history*, 33: 337-344.
- ALTICK, Richard D., 1978. The shows of London: xi, 553. Cambridge, Mass. & London, Harvard.
- AMIDON, C.H., 1974. Hoofmarks through the pages of history: early traces of the circus hitch. *White Tops*, 47(5): 20-22, 4 figs.
- AMMANN, Hartmann, 1979a. Javan rhinoceros - Ujung Kulon reserve. *World Wildlife Yearbook*, 1978-79: 77-78.
- , 1979b. De Javaanse neushoorn handhaaft zich. *Panda*, 15(6): 94.
- , 1980. Javan rhinoceros - Ujung Kulon reserve. *World Wildlife Yearbook*, 1979-80: 86-87.
- AMON, James, 1970. Crandon park zoo receives Indian rhinos. *Communicator*, 1(3): 3.
- ANDEL, Martinus Antonie van, 1909. Volksgeneeskunst in Indië: xi, 459. Utrecht, J. van Boekhoven (thesis University of Leiden).
- ANDERSEN, Jürgen, 1696. Orientalische Reise-Beschreibungen: - aus Schleswig der Anno Christi 1644 ausgezogen und 1650 wiederkommen. In: A. Olearius, Reise-Beschreibungen, part 3: x, 175, v.
- ANDERSEN, Svend, 1963. Sumatran rhinoceros (*Didermoceros sumatraensis*) at Copenhagen zoo. *International Zoo Yearbook*, 3: 56-57.
- ANDERSON, A.B., 1949. The Sudan's southern national park. *African wildlife*, 3(1): 25-29, 55, 7 figs., 1 map.
- ANDERSON, Fred & Peter M. HITCHINS, 1971. A radio tracking system for the black rhinoceros. *Journal of the Southern African wildlife management association*, 1(1): 26-35, figs. 1-11.
- ANDERSON, Jeremy L., 1966. Tooth replacement and dentition of the black rhinoceros (*Diceros bicornis* Linn.). *Lammergeyer*, 6: 41-46, pls. 1-2, figs. 1-2.
- ANDERSON, John, 1872. Notes on *Rhinoceros sumatrensis*, Cuvier. *Proceedings of the Zoological society of London*, 1872: 129-132.
- , 1878. Anatomical and zoological researches, comprising an account of the zoological results of the two expeditions to Western Yunnan in 1868 and 1875; and a monograph of the two cetacean genera, *Platanista* and *Orcella*, I: vi-xxv, 1, 985. London, Bernard Quaritch.

- , 1883. Guide to the Calcutta zoological gardens: vii, 181, xi. Calcutta, Hon. Committee of Management.
- , 1889. Report on the mammals, reptiles, and batrachians, chiefly from the Mergui Archipelago, collected for the Trustees of the Indian Museum. *Journal of the Linnean Society, Zoology*, 21: 331-350.
- ANDERSON, John, 1971. Mission to the East Coast of Sumatra in 1823. Reprint with an introduction by Nicholas Tarling: xviii, v-xxiii, 424. London etc., Oxford University press. (Original 1826.)
- ANDERSSON, Charles John, 1856. Lake Ngami; or, explorations and discoveries, during four years' wanderings in the wilds of South Western Africa: xviii, 546. London, Hurst & Blackett.
- , 1861. The Okavango river: a narrative of travel, exploration, and adventure: xxi, 364. London, Hurst and Blackett.
- , 1946. Africana museum: some recent acquisitions. *Africana notes and news*, 3(2): 65-66.
- ANDREINI, Giovanni Battista, 1617. L'Adamo, sacra rappresentazione: 177. Milano, G. Bordini.
- ANEAU, Barthélemy, 1552. Premier livre de la nature des animaux, tant raisonnables, que brutz: viii, 62. Lyon, Balthazar Arnoullet.
- ANGST, Walter, 1973. A Javan rhino bit my brother. *Animals*, 15(9): 388-394, 7 figs.
- ANNA, M., 1950. Notes sur la présence du rhinocéros dans la région de l'Ouham (Oubangui-Chari). *Mammalia*, 14(1/2): 26-28.
- ANSELL, W.F.H., 1947. A note on the position of rhinoceros in Burma. *Journal of the Bombay natural history society*, 47(2): 249-276, 1 pl.
- , 1952. The status of Northern Rhodesian game (observations on the mammals scheduled under the Game Ordinance). *African wildlife*, 6(2): 108-117, 4 figs.
- , 1957. Northern Rhodesia's protected animals. *African wildlife*, 11(1): 19-28, 4 figs.
- , 1959a. The possibility of the former occurrence of the white rhinoceros in the Barotse protectorate. *African wildlife*, 13(4): 336.
- , 1959b. Further data on Northern Rhodesian ungulates. *Mammalia*, 23(3): 332-349.
- , 1960a. Mammals of Northern Rhodesia: a revised checklist with keys, notes on distribution, range maps and summaries of breeding and ecological data: xxxi, 155, xxiv. Lusaka, Government Printer.
- , 1960b. The breeding of some larger mammals in Northern Rhodesia. *Journal of zoology*, 134: 251-274, figs. 1-11.
- , 1965. Addenda and corrigenda to 'Mammals of Northern Rhodesia' No. 2. *Paku*, 3: 1-14, fig. 1.
- , 1967. Perissodactyla. Pp. i, 1-26 in: J. Meester (ed.), Preliminary identification manual for African mammals, Washington, Smithsonian.
- , 1969. The black rhinoceros in Zambia. *Oryx*, 10(3): 176-192, map.
- , 1970. Distribution of white rhinoceros. *African wildlife*, 24(3): 259.
- , [1973]. The black rhinoceros in Zambia. *Black Lechuwe*, 11(2): 25-35, figs. 1-2, 1 map. (Partial reprint from Ansell 1969, with updated map.)
- , 1975. Black rhinoceros in Zambia. *Oryx*, 13(1): 83-84. (Partial reprint of Ansell 1973.)
- , 1978. The mammals of Zambia: 5, ii, 125. Chilanga, National Parks & Wildlife service.
- , C.W. BENSON & B.L. MITCHELL, 1962. Notes on some mammals from Nyasaland and adjacent areas. *Nyasaland Journal*, 15(1): 38-54.
- ANTHONY, Harold Elmer, 1928. Horns and antlers, their evolution, occurrence and function in the mammalia. *Zoological society bulletin*, New York, 31(6): 179-214.
- ANTONIUS, Otto, 1914. Gibt es insulare Zwergformen? *Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien*, 64: 17-21.
- , 1931. Nachrichten aus Wien-Schönbrunn. *Zoologische Garten*, (N.F.) 4(6/7): 260.
- , 1937. Bilder aus dem früheren und jetzigen Schönbrunner Tierbestand, I. Nashörner. *Zoologische Garten*, (N.F.) 9(1/2): 18-26, figs. 1-7.
- APPELMAN, F.J., 1930. Wildbescherming. *Tectona*, 23: 581-605.
- , 1934. Rhinoceros sondaicus in West-Java. *Tropische Natuur*, 23(4): 73-79, figs. 1-2.
- , 1958. Ein Wort über Ceratotherium simum cottoni. *Zoologische Garten*, (N.F.) 24(3/4): 284, fig. 1.

- , 1959. Zoological gardens and private collections can make an important contribution to the preservation of wild fauna. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 18: 15-31, figs. 1-6.
- ARA, Jamal, 1954. Conservation problems in Bihar. *Journal of the Bengal natural history society*, 27(2): 66-73.
- ARAMBOURG, Camille, 1962. Les faunes mammalogiques du pleistocène d'Afrique. Pp. 369-376 in: *Colloques internationaux du Centre national de la recherche scientifique*, 104: *Problèmes actuels de paléontologie (évolution des vertébrés)*, Paris, 1961: 475. Paris, C.N.R.S.
- & Justin FROMAGET, 1938. Le gisement quaternaire de Tam Nang (chaîne annamitique septentrionale). Sa stratigraphie et ses faunes. *Comptes Rendus hebdomadaires des séances de l'Académie des sciences*, Paris, 207: 793-795.
- ARGENSON, René Louis de Voyer de Paulmy, marquis d', 1863-64. *Journal et mémoires*, 5(1863): v, 510; 6(1864): v, 501. Paris, J. Renouard.
- ARISTOTELES (4th century B.C.). *Historia Animalium*, II, 1.499b.
- , *De partibus animalium*, 663a.
- ARITAKE, T., 1959. Transporting 'King of Tama,' the male Indian rhinoceros. *Animals and Zoo*, 11(2): 16-18, 3 figs.
- ARKELL, Anthony John, 1937. Rock pictures in northern Darfur. *Sudan notes and records*, 20(2): 281-287, pls. 14-22.
- ARKELL-HARDWICK, Alfred, 1903. An ivory trader in North Kenya: the record of an expedition through Kikuyu to Galla-land in East equatorial Africa: xvi, 368. London, New York and Bombay, Longmans, Green & Co.
- ARMAND, Alfred, 1879. Les médailleurs italiens des quinzième et seizième siècles: essai d'un classement chronologique de ces artistes et d'un catalogue de leurs oeuvres: iii-xxiii, 197. Paris, E. Plon.
- ARNOLD, Guy, 1959. Longhouse and jungle: an expedition to Sarawak: 206. London, Chatto & Windus.
- ASCHAFFENBURG, R., Margaret E. GREGORY, S.J. ROWLAND, S.Y. THOMPSON & Vanda M. KON, 1961. The composition of the milk of the African black rhinoceros (*Diceros bicornis*; Linn.). *Proceedings of the Zoological society of London*, 137: 475-479, fig. 1.
- ASDELL, S.A., 1964. *Patterns of mammalian reproduction*, 2nd ed.: xiii, 670. London, Constable. (1st ed. 1946.)
- Asiatic Society of Bengal, 1815. List of donors and donations to the museum of the Asiatic Society. *Asiatick researches*, 12: xx-xxviii.
- , 1834. *Proceedings of the Asiatic Society. Journal of the Asiatic society of Bengal*, 3: 141-143.
- ASTLEY-MABERLY, Charles T., 1938. With the white rhinoceros in Zululand. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 34: 52-55, 1 pl.
- , 1961. The Nairobi national park. *African wildlife*, 15(1): 19-24, 4 figs.
- ATHENAEUS (3rd century). *Deipnosophistae*, V, 201c.
- ATTWELL, L., 1947. The Natal game reserves. *African wildlife*, 1(2): 24-29, 2 figs.
- ATTWELL, R.I.G., 1948. Last strongholds of rhinoceros. *African wildlife*, 2(3): 34-40, 49-52, 7 figs, 1 map.
- AUDAS, R.S., 1951. Game in northern Darfur. *Sudan wildlife and sports*, 2(1): 11-14.
- AUGIERAS, Ernest Marcel, 1935. La grande chasse en Afrique: iii, 160. Paris, Comité de l'Afrique française.
- AUGUSTIN, Antonio, 1587. Dialogos de medallas, inscripciones y otras antigüedades: 470. Tarragona, Philippe Mey.
- AUGUSTINUS, Aurelius (4th century). *Annotationum in Job liber unus*. In: J.P. Migne, *Patrologiae cursus completus Latinae*, vol. 34.
- AUMONIER, F.J. & Alexander J.E. CAVE, 1960. A note on the visceral histology of *Ceratotherium*. *Journal of the Royal microscopical society*, 78(3/4): 120-122, pls. 1-2.
- BABAULT, G., 1949. Notes éthologiques sur quelques mammifères africains. *Mammalia*, 13: 1-16.

- BABUR, 1922. *Bābur-nāma* (memoirs of Babur), translated from the original Turki text of Zahiru'd-din Muhamed Babur Padshah Ghazi, by Annette Susannah Beveridge, I and II: Ixi, 880, lxxxii. (Reprint 1970: New Delhi, Oriental books reprint co.)
- BACKHAUS, Dieter, 1960. Auf Besuch im Garamba-Nationalpark: Naturschutz in Belgisch-Kongo. *Orion*, 15: 307-314, 11 figs.
- , 1964. Zum Verhalten des nördlichen Breitmaulnashornes (*Diceros simus cottoni* Lydekker 1908). *Zoologische Garten*, (N.F.) 29 (3): 93-107, fig. 1.
- BÄNZIGER, Hans, 1975. Skin piercing blood-sucking moths, I: Ecological and ethological studies on *Calpe eustrigata* (Lepid., Noctuidae). *Acta Tropica* 32(2): 125-144, figs. 1-13.
- BAINES, Thomas, 1864. Explorations in South-West Africa: being an account of a journey in the years 1861 and 1862 from Walvisch Bay, on the western coast, to Lake Ngami and the Victoria Falls: xiv, 535. London, Longman, Green, Longman, Roberts & Green.
- BAKER, Edward B., 1887. Sport in Bengal: and how, when, and where to seek it: xi, 368. London, Ledger, Smith & Co.
- BAKER, Frank, 1896a. Report of the superintendent of the National zoological park. *Annual Report of the Board of Regents of the Smithsonian Institution*, to July 1894: 68-74.
- , 1896b. Report of the superintendent of the National zoological park. *Annual Report of the Board of Regents of the Smithsonian Institution*, to July 1895: 68-74.
- BAKER, Maureen K. & Michael E. KEEP, 1970. Checklist of the ticks found on the larger game animals in the Natal game reserves. *Lammergeyer*, 12: 41-47.
- BAKER, Rollin H., 1967. Perissodactyla. Pp. 374-385 in: Sydney Anderson & J. Knox Jones jr. (eds.), *Recent mammals of the world: a synopsis of families*: viii, 453. New York, Ronald Press Co.
- BAKER, Samuel White, [1872]. The Nile tributaries of Abyssinia, and the sword hunters of the Hamran Arabs, new ed.: xx, 413. London, MacMillan.
- , 1890. Wild beasts and their ways: reminiscences of Europe, Asia, Africa, and America, II: viii, 379. London/New York, MacMillan.
- BAKER, W.E. & H.M. DURAND, 1836. Sub-Himalayan fossil remains of the Dādapur collection. *Journal of the Asiatic society of Bengal*, 5: 486-504, pls. 15-19.
- BALDWIN, J.H., 1883. The large and small game of Bengal and the North-Western provinces of India, 2nd ed.: vi-xxiv, 380. London, Kegan Paul, Trench & Co.
- BALDWIN, William Charles, 1894. African hunting and adventure from Natal to the Zambesi including Lake Ngami, the Kalahari desert... from 1852 to 1860, 3rd ed.: x, 428. London, R. Bentley and Son. (1st ed. 1863.)
- BALEN, Jan Hendrik van, [1914]. De dierenwereld van Insulinde in woord en beeld, I. De zoogdieren: vii, xi, 505. Deventer, J.J.C. van der Burgh.
- BALL, Valentine, 1877. Notes on certain mammals occurring in the Basin of Māhanadi. *Proceedings of the Asiatic society of Bengal*, for July 1877: 168-172.
- BANERJEE, Robin, 1972. Where flying vultures reveal secrets - Kaziranga. *Cheetal*, 15(1): 48-50, 4 figs.
- BANERJEE, S. & S. CHAKRABORTY, 1973. Remains of the great one-horned rhinoceros, *Rhinoceros unicornis* Linnaeus from Rajasthan. *Science & Culture*, Calcutta, 39(10): 430-431.
- BANKS, Edward, 1931. A popular account of the mammals of Borneo. *Journal of the Malayan branch of the Royal Asiatic Society*, 9(2): 1-139, pls. 11-19, 1 map.
- , 1935. A collection of montane mammals and birds from Mulu in Sarawak. *Sarawak museum journal*, 4: 327-341.
- , 1937. Rum and rhinos. *Sarawak Gazette*, 2 August 1937: 163-164.
- , 1978. Mammals from Borneo. *Brunei museum journal*, 4(2): 165-241, pls. 1-14.
- BARBIER, 1857. Chronique de la régence et du règne de Louis XV (1718-1763) ou Journal de Barbier, avocat au Parlement de Paris. Quatrième série (1745-1750): 3, 511. Paris, Charpentier.
- BARBOUR, Thomas & Glover M. ALLEN, 1932. The lesser one-horned rhinoceros. *Journal of mammalogy*, 13: 144-149, pl. 11.
- BARGE, Joannes Antonius James, 1934. De oudste inventaris der oudste academische anatomie in Nederland: 74. Leiden/Amsterdam, H.E. Stenfort Kroese.

- BARNARD, A.M., 1952. The Kaokoveld-expedition, some interesting observations. *African wildlife*, 6(1): 76-79, 6 figs.
- BARNARD, Basil H.F., 1932. The one-horned rhinoceros. *Malayan Forester*, 1: 183-185.
- BARNES, Warren Delabere, 1903. Notes on a trip to Gunong Benom in Pahang. *Journal of the Straits branch of the Royal Asiatic Society*, 39: 1-18.
- BARRINGTON, George, 1803. An account of a voyage to New South Wales, I: x, 467, v. London, M. Jones.
- BARROS, João de, 1945. Asia. Dos feitos que os portugueses fizeram no descobrimento e conquista dos mares e terras do oriente: segunda década, 6th ed.: iii, 475. Lisboa, Agência geral das colónias. (1st ed., 1628.)
- BARROW, John, 1804. An account of travels into the interior of southern Africa, II: xii, 452. London, T. Cadell & W. Davies.
- , 1807. Voyage à la Cochinchine, par les îles de Madère, de Ténériffe et du Cap Vert, le Brésil et l'île de Java, contenant des renseignements nouveaux et authentiques sur l'état naturel et civil de ces divers pays, accompagné de la relation d'un voyage au Pays des Boushouannes dans l'intérieur de l'Afrique australe, I: xiv, 407. Paris, F. Buisson.
- BARTH, Heinrich, 1857. Reise und Entdeckungen in Nord- und Central-Afrika in den Jahren 1849 bis 1855: Tagebuch seiner im Auftrag der Britischen Regierung unternommene Reise, III: xi, 612. Gotha, Justus Perthes.
- BARTH, Johann Matthaeus, 1747. Schreiben, an einen guten Freund, darinne von einem vor wenig Wochen hieher gebrachten Rhinoceros oder Nashorn umständliche Nachricht gegeben, und zugleich untersucht wird: ob dieses Thier der Hiob cap. XL v. 10. seqq. beschriebene Behemoth: 8. Regensburg, Zunkels.
- BARTHELEMY, Jean Jacques, 1761. Mémoire sur les anciens monumens de Rome. *Mémoires de littérature, tirés des registres de l'Académie royale des inscriptions & belles lettres*, 28: 579-610.
- BARTHOLEINUS, Thomas, 1678. De unicorni observationes novae. Secunda editione auctiores & emendatiores, editae a filio Casparo Bartholino: xvi, 381, xv. Amstelædam, Henr. Wetstenium.
- BARTLETT, Abraham Dee, 1873. On the birth of a Sumatran rhinoceros. *Proceedings of the Zoological society of London*, 1873: 104-106, pl. 11, 1 fig.
- , 1874. [Exhibition of a rhinoceros-horn stated to be from Borneo.] *Proceedings of the Zoological society of London*, 1874: 499.
- , 1898. Wild animals in captivity, being an account of the habits, food, management and treatment of the beasts and birds at the 'Zoo' with reminiscences and anecdotes: xi, 373. London, Chapman and Hall.
- BARTLETT, Edward, 1891. Notes on the Bornean rhinoceros. *Proceedings of the Zoological society of London*, 1891: 654-655, 1 fig.
- BASJARUDEN, Hasan, 1967. Indonesia: new policy statement on endangered species. *IUCN-Bulletin*, (N.S.) 2(5): 38, 1 fig.
- , 1968. Problems of national parks and reserves in Indonesia and emerging countries. *IUCN-Publications*, (N.S.) 10: 386-393, 1 map.
- BATEMAN, James A., 1961. The mammals occurring in the Bredasdorp and Swellendam districts, C.P., since European settlement. *Koedoe*, 4: 78-100.
- BAUER, Rotraud & Herbert HAUPT (eds.) 1976. Das Kunstkammerinventar Kaiser Rudolfs II., 1607-1611. *Jahrbuch der kunsthistorischen Sammlungen in Wien*, 72: vii-xlv, 1-191, figs. 1-102.
- BAX, P. Napier & D.L.W. SHIELDRIK, 1963. Some preliminary observations on the food of elephant in the Tsavo royal national park (East) of Kenya. *East African wildlife journal*, 1: 40-53, figs. 1-4, maps 1-2.
- BAYER, Leon, 1924. Wild life on and around mount Elgon, Equatorial East Africa, II: The ascent of Mount Elgon. *Zoological society bulletin*, New York, 27(1): 2-11.
- BEAL, Samuel, 1875. The romantic legend of Sākya Buddha from the Chinese-sanscrit: xii, 395. London, Trübner & Co.
- BEAN, Ed. H., 1941. Baby rhinoceros at Chicago zoological park. *White Tops*, Christmas 1941: 8.

- BEAUFORT, Lieven Ferdinand de, 1926. *Zoögeographie van den Indischen Archipel*: ii, 202. Haarlem,erven F. Bohn.
- , 1928. On the occurrence of *Rhinoceros sondaicus* Desm. in Sumatra. *Tijdschrift der Nederlandsche dierkundige vereniging*, (3) 1(2): 43-44.
- BEAUVON, Ludovic de, 1870. Java, Siam, Canton: voyage autour du monde: ii, 452. Paris, Henri Plon.
- BEAUX, Oscar de, 1912. Ueber einige Säugetiere in Carl Hagenbecks Tierpark in Stellingen. *Zoologische Anzeiger*, 39: 561-575, figs. 1-6.
- , 1923. Mammiferi della Somalia Italiana: raccolta del Maggiore Vittorio Tedesco Zammarano nel Museo civico di Milano. *Atti della Società italiana di scienze naturali e del museo civico di storia naturale in Milano*, 62: 247-316.
- BEAVAN, Reginald C., 1865. The rhinoceros in Bhotan (*Rhinoceros indicus*, Cuv.). *Intellectual Observer*, 6: 170-174.
- BECCARI, Odoardo, 1904. Wanderings in the great forests of Borneo: travels and researches of a naturalist in Sarawak: xxiv, 424. London, Archibald Constable & Co.
- BECKMANNUS, Johannis, 1766. *De historia naturali veterum libellus primus*: 246, viii. Petropoli et Gottingae, Dieterichianus.
- BEDDARD, Frank Evans, 1902. *The Cambridge natural history*, 10: Mammalia: xii, 605. London, MacMillan & Co.
- , 1905. *Natural history in zoological gardens*, being some account of vertebrated animals, with special reference to those usually to be seen in the Zoological Society's gardens in London and similar institutions: x, 310. London, Archibald Constable & Co.
- & James MURK, 1891. On the cause of death of a rhinoceros. *Proceedings of the Zoological society of London*, 1891: 246-247.
- & Frederick TREVES, 1887. On the anatomy of the Sondaic rhinoceros. *Transactions of the Zoological society of London*, 12: 183-198, pls. 33-37, 3 figs.
- & —, 1889. On the anatomy of *Rhinoceros sumatrensis*. *Proceedings of the Zoological society of London*, 1889: 7-25, figs. 1-10.
- BEDEN, M., J.P. CARBONNEL & Claude GUÉRIN, 1972. La faune du Phnom Loang (Cambodge), comparaison avec les faunes pléistocènes du nord de l'Indochine. *Archives géologiques du Viet-Nam*, 15: 113-122, 1 map.
- & Claude GUÉRIN, 1973. Le gisement de vertébrés du Phnom Loang (province de Kampot, Cambodge): faune pléistocène moyen terminal (Loangien). *Travaux et documents de l'O.R.S.T.O.M.*, 27: 3-97, pls. 1-6, figs. 1-13.
- BECKMAN, Daniel, 1718. A voyage to and from the island of Borneo, in the East-Indies, with a description of the said island: giving an account of the inhabitants, their manners, customs, religions, product, chief parts and trade . . . : xiv, 205. London, T. Warner.
- BEGBEE, Peter James, 1967. The Malayan peninsula, with an introduction by Diptendra M. Banerjee: ii, 11, xviii, 523, xix. (Reprint) Kuala Lumpur, Oxford University Press. (Original 1834.)
- BEHR, Johann von der, 1689. *Neun-jährige Ost-Indianische Reise . . .*, neue Edition: xx, 120, vii. Franckfurt, Lorenz S. Hörner. (First edition 1668; published in 1930: *Reise nach Java, Vorder-Indien, Persien und Ceylon, 1641-1650*. Haag, Martinus Nijhoff.)
- BEHR, Manfred & Hans Otto MEISSNER, 1959. Keine Angst um wilde Tiere: fünf Kontinente geben ihnen Heimat: 309. München, Bonn, Wien, BLV Verlagsgesellschaft.
- BELL, William, 1793. Description of the double-horned rhinoceros of Sumatra. *Philosophical transactions of the Royal Society of London*, 1793: 3-6, pls. 2-4.
- BEMMEL, Adriaan C.V. van, 1960. Twee kleuters. *Blijdorp-Gehuiden*, Rotterdam, 8(10): 5-7, 2 figs.
- , 1962. Afscheid van Laura. *Blijdorp-Gehuiden*, Rotterdam 10(6): 4-5, 1 fig.
- , 1963a. Ze zijn er! *Blijdorp-Gehuiden*, Rotterdam, 11(9): 2-3, 1 fig.
- , 1963b. Weerzien met Laura. *Blijdorp-Gehuiden*, Rotterdam, 11(11): 2-3, 1 fig.
- , 1969. Een moderne ark van Noach, de dierentuin als redding voor bedreigde diersoorten: 158. Amsterdam, Ploegsma.
- BEMMEL, Johan Frans van, 1915. Over de fauna van den Indischen archipel. Pp. 87-111 in: E.C. Abandonon, J.F. van Bemmelen, R. Schuiling, J.P. van der Stok & H.H. Zeijlstra, De

- natuurlijke gesteldheid van den Indischen Archipel: iv, 111. Amsterdam, W. Versluys.
- BENGAL Government, 1932. Bengal Act VIII of 1932: the Bengal rhinoceros preservation act, 1932. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 17: 58-60.
- BENNET, E., 1914. Shots and snapshots in British East Africa: xii, 312. London, Longmans, Green & Co.
- BENNETT, Edward Turner, 1834. On additions to the menagerie. *Proceedings of the Zoological society of London*, 1834: 41.
- BENVENISTE, Emile, 1929. Le nom d'un animal indien chez Elien. Pp. 371-376 in: *Donum natalicium Schrijnen*, verzameling van opstellen door oud-leerlingen en beviende vakgenooten opgedragen aan Mgr. Prof. Dr. Jos. Schrijnen: xxvii, 926. Nijmegen/Utrecht, Dekker & van de Vegt.
- BENZON, Béje, 1947. Rhino - black or white? *Field*, 189: 529, 1 fig.
- BEQUAERT, J., 1916. Parasitic muscid larvae collected from the African elephant and the white rhinoceros by the Congo expedition. *Bulletin of the American museum of natural history*, 35: 377-387, figs. 1-3.
- , 1933. The giant ticks of the Malayan rhinoceros; with a note on *Ixodes walckenaerui* Gervais. *Psyche*, 40: 137-143.
- BERE, Renie M., 1957. Ungulates of the park. *Uganda wild life and sport*, 1(3): 11-16, 2 figs.
- , 1958. The status of ungulate mammals in the Uganda national parks. *Mammalia*, 22: 418-426.
- BERG, Bengt Magnus Kristoffel, 1933. *Meine Jagd nach dem Einhorn*: 189. Frankfurt am Main, Rütten & Loening. (Original Swedish, 1932.)
- , 1935. Tiger und Mensch: 187. Berlin, Dietrich Reimer & Ernst Dohsen.
- BERGEN, Carolus Augustus von, 1746. Oratio de rhinocerote, quam habuit XVI. Octob. MDCCXLVI quum tertium poneret rectoratum academiae: 31. Francofurti ad Viadrum, Ioh. Christian Kleyb.
- BERGER, Arthur, 1910a. In Afrikas Wildkammern als Forscher und Jäger: xvi, 431. Berlin, Paul Parey.
- , 1910b. Die von mir auf meiner Expedition in den Jahren 1908/09 in Englisch Ost-Afrika und der Lado-Enklave gesammelten Säugetiere (nach vorläufiger Bestimmung). *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin*, 1910(8): 333-361.
- , 1924. Der heilige Nil: 335. Berlin, Wegweiser.
- BERGER, A. Katharina, 1934. Science in field and laboratory. *Natural History*, 34(1): 95-100, 5 figs.
- BERGGREN, S., 1967. Further notes on the mixed species exhibit at Borås zoo. *International Zoo Yearbook*, 7: 240.
- BERGH, Hendrik K. van den, 1970. A note on eyelashes in an African black rhinoceros, *Diceros bicornis*. *Journal of zoology*, 161(2): 191, pl. 1.
- , 1973. Neushoorn en olifant: dikke vrienden. *Blijdorp-Gehuiden*, Rotterdam, 21(3): 5-6, 2 figs.
- BERGH, Walter van den, 1952. Nos rhinocéros blancs. *Ceratotherium simum cottoni* Lydekker. *Zoo*, Anvers, 18: 6-26, 29 figs.
- , 1955. Nos rhinocéros blancs (*Ceratotherium simum cottoni* Lydekker). *Zoologische Garten*, (N.F.) 21(3): 129-151, figs. 1-17.
- , 1958. Encore une fois: les rhinocéros blancs. *Zoologische Garten*, (N.F.) 24(3/4): 285, 1 fig.
- BERKHEY, Johannes le Franq van, 1784. Eerste catalogus van de uitgebreide systematische natuurkundige verzameling van teekeningen, printen en afgezette afbeeldingen . . . : I, viii, 200. Amsterdam, Theodorus Crayenschot.
- BERNARD, (T), 1930. Verkorte notulen der jaarvergadering van de Ned. Ind. Vereeniging tot natuurbescherming op 23 maart 1930 gehouden te Baitenzorg. *Tropische Natuur*, 19(5/6): 107-108.
- BERNIER, François, 1699. Voyages, contenant la description des états du Grand Mogol, de l'Hindoustan, du royaume de Kachimiri & c., II: 358. Amsterdam, Paul Marret.
- BESLERUS, Michael Rupertus, 1642. *Gazophylacium rerum naturalium e regno vegetabili, animali et minerali depromptarum, nunquam hactenus in lucem editarum, fidelis cum*

- figuris aeneis ad vivum incisus representatio operâ. (no place)
- BEST, Anthony A. & W.G. RAW, 1975. Rowland Ward's records of big game, XVth edition (Africa): 537. London, Rowland Ward.
- BEST, Gerald A., François EDMOND-BLANC & R. Courtenay WITTING, 1962. Rowland Ward's records of big game, XIIIth edition (Africa): xx, 374. London, Rowland Ward.
- BEYERINCK, F. & M.G. de BOER, 1935. Jacob Bicker Raye "Notitie van het merkwaardigste meyn beken" 1732-1772, naar het oorspronkelijk dagboek medegedeeld: xii, 383. Amsterdam, "Joost van den Vondel."
- BHADURI, J.L., K.K. TIWARI & Biswamoy BISWAS, 1972. Zoology. Pp. 401-444, pls. 7-9, figs. 8-12: in: D.M. Bose, S.N. Sen & B.V. Subbarayappa (eds.), A concise history of science of India: xvii, 689. New Delhi, Indian National Science Academy.
- BHATIA, C.L. & J.H. DESAI, 1971. Breeding of the Indian rhinoceros (*Rhinoceros unicornis*) at Delhi zoological park. *Journal of the Bombay natural history society*, 68(3): 820-823, 1 pl.
- & —, 1975. Breeding the Indian rhinoceros at Delhi zoological park. Pp. 303-307, figs. 1-2 in: R.D. Martin (ed.), Breeding endangered species in captivity: xxv, 420. London etc., Academic Press.
- BHATTACHARJEE, M.L. & B.R. HALDER, 1971. The occurrence of *Fasciola gigantica* in the liver of an Indian rhinoceros (*R. unicornis*). *British veterinary journal*, 127(5): vii-viii.
- BICKMORE, Albert Smith, 1868. Travels in the East Indian archipelago: 555. London, John Murray.
- BIGALKE, R., 1946. The regeneration of the anterior horn of the black rhinoceros, *Diceros bicornis* (Linn.). *Proceedings of the Zoological society of London*, 115: 323-326, pls. 1-2.
- , 1947a. Pretoria zoo has a baby white rhinoceros. *Animal kingdom*, 50(2): 48-55, figs. 1-8.
- , 1947b. The adulteration of the fauna and flora of our national parks. *South African journal of science*, 43: 221-225.
- , 1950. Wild life conservation in the Union of South Africa: historical introduction. *Fauna & Flora*, Pretoria, 1: 5-9.
- , 1961. White rhinos at Pretoria zoo. *International Zoo Yearbook*, 2: 43-44.
- , 1963. The extermination of the square-lipped or white rhinoceros [*Ceratotherium simum simum* (Burch.)] in Transvaal and its reintroduction: a historical and critical review. *Fauna & Flora*, Pretoria, 14: 5-14, 1 fig. 2 maps. (Also published in Afrikaans.)
- , 1968. Nature conservation in the Transvaal. *Oryx*, 9(6): 426-430.
- , 1970. Distribution of white rhino. *African wildlife*, 24(3): 258-259.
- , 1975. Das Breitmaulnashorn (*Ceratotherium simum simum*) zum ersten Male in einem Zoo. *Zoologische Garten*, (N.F.) 45(1): 4-8, figs. 1-3.
- , T. STEYN, D. de VOS & K. de WAARD, 1950. Observations on a juvenile female square-lipped or white rhinoceros [*Ceratotherium simum simum* (Burch.)] in the national zoological gardens of South Africa. *Proceedings of the Zoological society of London*, 120: 519-528, pls. 1-3.
- BIGALKE, Rudolph Carl Heinrich, 1958. On the present status of ungulate mammals in South West Africa. *Mammalia*, 22: 478-497, fig. 1.
- BIGALKE, R.D., Michael E. KEEP, Pearl J. KEEP & J.H. SCHÖEMAN, 1970. A large *Babesia* sp. and a *Theileria*-like piroplasm of the square-lipped rhinoceros. *Journal of the South African veterinary medical Association*, 41(4): 292-294, figs. 1-2.
- BIGOURDAN, Jacques & Roger PRUNIER, 1937. Les mammifères sauvages de l'ouest africain et leur milieu: xii, 367. Montrouge, Jean de Rudder.
- BILLBERG, G.J., 1827. Synopsis faunae Scandinaviae, 1 pars 1, *Mammalia*: iv, viii, 55, xviii. Holmiae, Ordo Equestris.
- BIRON, C., 1703. Curiositez de la nature et de l'art, aportées dans deux voyages des Indes; l'un aux Indes d'Occident en 1698. & 1699. & l'autre aux Indes d'Orient en 1701. & 1702: avec une relation abrégée de ces deux voyages: vi, xxvi, 286. Paris, Jean Moreau.
- BISHOP, Carl Whiting, 1933. Rhinoceros and wild ox in ancient China. *China Journal*, 18: 322-330, 6 figs.
- BLAINVILLE, Henri Marie Ducrotay de, 1817. Lettre de M.W.-J. Burchell à M.H. de Blainville, sur une nouvelle espèce de rhinocéros, et observations sur les différentes espèces de ce genre. *Journal de physique, de chimie, d'histoire naturelle et des arts*, 85: 163-168, 1 pl.

- , 1819. Ueber die verschiedenen Arten v. Nashörnern. *Isis oder encyclopädische Zeitung von Oken*, 4: 264-266.
- , 1846. Des Rhinocéros (Buffon) (G. Rhinoceros, L.). Pp. 1-232 in: *Ostéographie ou description iconographique comparée du squelette et du système dentaire des mammifères récents et fossiles pour servir de base à la zoologie et à la géologie*, III, Quaternatès. Paris, J.B. Baillière et fils.
- BLANC, Vincent le, 1654. De vermaarde reizen, die hy sedert d'ouderdom van veertien jaren, tot aan die van zestig, in de vier delen des werrelts gedaan heeft: iii, 152, 116. Amsterdam, Jan Hendriksz. & Jan Rieuwertsz.
- BLANCOU, Lucien, 1932. Dans la savane boisée de l'Oubangui. *Terre et la vie*, 2(4): 187-211, 15 figs, 1 map.
- , 1933. Contribution à l'étude de la faune sauvage de l'Oubangui-Chari. Mammifères et oiseaux des bassins de la Ouaka et de la Kandja (circonscription de la Ouaka). *Bulletin de la Société des recherches congolaises*, 18: 13-35.
- , 1935a. Contribution à l'étude de la faune sauvage de l'Oubangui-Chari. Mammifères des bassins de la Ouaka et de Kandja (circonscription de la Ouaka). *Bulletin de la Société des recherches congolaises* 20: 45-67.
- , 1935b. Contribution à l'étude de la faune de l'A.E.F. A propos des inventaires de la faune de l'A.E.F. de MM. Périquet, Beuel et Maigret. *Bulletin de la Société des recherches congolaises*, 21: 47-60.
- , 1948. Notes sur les mammifères de l'Oubangui-Chari. Quelques précisions géographiques au sujet des ongulés. *Mammalia*, 12(1/2): 1-14.
- , 1954. Notes sur les mammifères de l'équateur africain français. Un rhinocéros de forêt? *Mammalia*, 18: 358-363.
- , 1958a. Distribution géographique des ongulés d'Afrique Equatoriale Française en relation avec leur écologie. *Mammalia*, 22: 294-316.
- , 1958b. Note sur le statut actuel des ongulés en Afrique Equatoriale Française. *Mammalia*, 22: 399-405.
- , 1960. Destruction and protection of the fauna of French Equatorial and of French West Africa, part II: The larger animals. *African wildlife*, 14(2): 101-108, 6 figs.
- BLAND, John Otway Percy, 1926. The rhinoceros in ancient China. *Country Life*, 59: 528, 1 fig.
- BLANFORD, H.R., 1939. Rhinoceros sondaicus in Burma: the problem of conservation. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 37: 27-32.
- BLANFORD, William Thomas, 1869. Exhibition of heads of Rhinoceros Keitloa, and Phacochoerus aeliani, and of some skins of hyraxes. *Proceedings of the Zoological society of London*, 1869: 432.
- , 1870. Observations on the geology and zoology of Abyssinia, made during the progress of the British expedition of that country in 1867-68: xii, 487. London, MacMillan & Co.
- , 1891. The fauna of British India, including Ceylon and Burma: Mammalia: v, xx, xiii, 617. London, Taylor & Francis.
- BLASZKIEWITZ, Bernhard, 1980. Gedanken zur Haltung des Panzernashorns (Rhinoceros unicornis Linné, 1758). *Zoologische Beiträge*, (N.F.) 26(1): 69-108, figs. 1-5.
- BLEEKER, P., 1858. Bestuursvergadering, gehouden den 9n Augustus 1858 ten huize van den heer Groll. *Natuurkundig tijdschrift voor Nederlandsch Indië*, (4) 16(2): 305-318.
- BLEIGH, J. & Antonie M. HARTHOORN, 1965. Continuous radiotelemetric records of the deep body temperature of some unrestrained African mammals under near-natural conditions. *Journal of physiology*, 176: 145-162, figs. 1-11.
- BLOWER, John H., 1961. Operation rhino. *Uganda wild life and sport*, 2(2): 5-10, 9 figs.
- , 1963. So fingen sie die weissen Nashörner. *Tier*, 3(1): 16-19, 7 figs.
- , 1968. The wildlife of Ethiopia. *Oryx*, 9 (4): 276-285, pls. 1-11, 1 map.
- , 1973. Rhinos - and other problems - in Nepal. *Oryx*, 12(2): 270-280, 5 figs, 1 map.
- , 1974. Rhino-poaching in Nepal. *Oryx*, 12(3): 310.
- BLUME, Carl Lodewijk, 1825. Over de gesteldheid van het gebergte Gedé. *Verhandelingen van het Bataviaasch genootschap van kunsten en wetenschappen*, 10: 55-104.
- , 1845. Nalezingen in oude Javasche couranten, XLIV. Gedachten op eene reis door het

- zuidoostelijk gedeelte der residentie Bantam. *Indisch Magazijn*, 2e twaalfstal (3/4): 1-36.
- BLUMENBACH, Johann Friedrich, 1788. Handbuch der Naturgeschichte, 3rd ed.: xvi, 715. Göttingen, Johann Christian Dieterich.
- , 1791. Vorrede und Anmerkungen, in: James Bruce, *Reisen zur Entdeckung der Quellen des Nils in den Jahren 1768, 1769, 1770, 1771, 1772 und 1773*. Ins Deutsche übersetzt von J.J. Voikmann, V: iv, 384. Leipzig, Weidmann.
- , 1796. Abbildungen naturhistorischer Gegenstände Nro. 1-100. Göttingen, Heinrich Dieterich.
- , 1797. Handbuch der Naturgeschichte, 5th ed.: xviii, 714. Göttingen, Johann Christian Dieterich.
- BLYTH, Edward, 1842. Proceedings of the Asiatic Society. *Journal of the Asiatic society of Bengal*, 11: 439-471, 6 figs.
- , 1847a. Report for the months of December, 1846, and January and February 1847. *Journal of the Asiatic society of Bengal*, 16: 209-211.
- , 1847b. Proceedings of the Asiatic society of Bengal, April, 1847. *Journal of the Asiatic society of Bengal*, 16: 491-503.
- , 1851. Proceedings of the Asiatic society of Bengal for December, 1849. *Journal of the Asiatic society of Bengal*, 19: 83-88.
- , 1861. Extract from his letter respecting *Rhinoceros crossii*, Gray. *Proceedings of the Zoological society of London*, 1861: 306-307.
- , 1862a. A memoir on the living Asiatic species of *Rhinoceros*. *Journal of the Asiatic society of Bengal*, 31(2): 151-175, pls. 1-4.
- , 1862b. A further note on elephants and rhinoceroses. *Journal of the Asiatic society of Bengal*, 31(2): 196-200.
- , 1862c. Report of curator, zoological department, February 1862. *Journal of the Asiatic society of Bengal*, 31(3): 331-345.
- , 1862d. A further note on wild asses, and alleged wild horses. *Journal of the Asiatic society of Bengal*, 31(4): 363-366.
- , 1863a. Exhibition of deer-horns and other specimens, with remarks. *Proceedings of the Zoological society of London*, 1863: 155-158, 2 figs.
- , 1863b. Catalogue of the mammalia in the Museum Asiatic Society: iii, 187, iii-xiii. Calcutta, Savielle & Cranenburgh.
- , 1868a. *Rhinoceros* shedding their horns. *Journal of travel and natural history*, 1: 70.
- , 1868b. *Rhinoceros* horns. *Journal of travel and natural history*, 1: 130-131.
- , 1869a. The zoological garden at Antwerp. *Field*, 34: 191-192.
- , 1869b. *Rhinoceros* horn toppling forward, & c. *Field*, 34: 192.
- , 1869c. Animals of Burma. *Field*, 34: 334.
- , 1870a. Bifid rhinoceros horns. *Field*, Jan. 15, 1870: 52.
- , 1870b. *Rhinoceros* detaching its horn. *Field*, 36: 173.
- , 1872a. On the species of Asiatic two-horned rhinoceros. *Annals and Magazine of natural history*, (4) 10: 399-405.
- , 1872b. Asiatic rhinoceroses. *Zoologist*, (2) 7: 3104-3108.
- , 1875. Catalogue of the mammals and birds of Burma. *Journal of the Asiatic society of Bengal*, 44(2-extra no.): 1-167.
- BOAS, J.E.V., 1931. Hörner. Pp. 545-552, figs. 351-360 in: Louis Bolk, Ernst Göppert, Erich Kallius & Wilhelm Lubosch (eds.), *Handbuch der vergleichende Anatomie*, 1: xvi, 752. Berlin/Wien, Urban & Schwarzenberg.
- BODAGE, José Vincente Barboza du, 1890. Mammifères d'Angola et du Congo. *Jornal de sciencias mathematicas, phycicas e naturaes*, (2) 2(5): 1-32, 1 pl.
- BOCHART, Samuel, 1663. *Hierozoicon, sive bipartitum opus de animalibus sacrae scripturae*: 103 + cols. 1094 + indices. Londini, Tho. Roycroft.
- BOCK, Carl Alfred, 1881. The head-hunters of Borneo: a narrative of travel up to Mahakkam and down the Barito; also, journeyings in Sumatra: xvi, 344. London, Sampson Low, Marston, Searle & Rivington.
- , 1884. Temples and elephants: the narrative of a journey of exploration through upper Siam and Lao: xvi, 438. London, Sampson Low, Marston, Searle & Rivington.

- BODDAERT, Pieter, 1785. *Elenchus animalium*, volumen I: sistens quadrupedia huc usque nota, eorumque varietates: xl, 174. Rotterdam, C.R. Hake.
- BODE, Nancy C., 1952. Sally's a success! *Zoonoz*, San Diego, 25(11): 6.
- BOERHAAVE, Jakob, 1737. Aandagtig beschouw, naaukeurig ondersoek, ende uitvoerige verklaring van den Behemoth en den Leviathan, afgetekend van den Heere God in het XLste en XLste hoofdstuk van het boek Jobs: xxxii, 341, xix. Leiden, Samuel Luchtmans.
- BOETTGER, O., 1905. Das doppelhörnige Nashorn (*Rhinoceros sumatrensis*). *Zoologische Garten*, (A.F.) 46(12): 375-376.
- BOEVER, William J., 1976. Interdigital corns in a black rhinoceros. *Veterinary medicine/small animal clinician*, 71(6): 827-830, figs. 1-7.
- BOGAERT, Abraham, 1711. Historische reizen der oostersche deelen van Asia: I, iv, 604, vi. Amsterdam.
- BOIE, Heinrich, 1832. Briefe, geschrieben aus Ostindien und auf der Reise dahin: 154. Schleswig, kg. Lautstumm-Institut.
- BOILLOT, Joseph, 1604. New Termis Buch, von allerley grossen vierfüßigen Thieren zugerichtet, mit beygefügter Thieren contrarieteten, sampt etlicher massen Beschreibungen, ganz lieblich und luftig, gleichsam als zur handel und in einem Spiegel vorgestellt. (no place)
- BOITARD, Pierre, 1842. Le Jardin des Plantes: description et mœurs des mammifères de la ménagerie et du Muséum d'histoire naturelle: iii, lxxv, 472. Paris, J.J. Dubochet.
- BOK, Egbert Jan, 1940. Bijdrage tot de kennis der raseigenschappen van het Javaansche volk: vi, 128. Utrecht, Oosthoek (thesis University of Utrecht).
- BOLAU, Heinrich, 1879. Die Lebensdauer der Thiere im zoologischen Garten zu Hamburg. *Zoologische Garten*, (A.F.) 20(4): 106-112.
- , 1893. Die ältesten Tiere des zoologischen Gartens in Hamburg. *Zoologische Garten*, (A.F.) 34(9): 281-283.
- , 1900. Das Ende des Indischen Nashorns im Hamburger zoologischen Garten. *Zoologische Garten*, (A.F.) 41(11): 334-336.
- BOLLING, Frederik Andersen, 1678. Oost-Indiske reise-bog . . . : vi, 96. Kobenhavn, kongl. Mayest. Boghandler.
- BOLTON, Melvin, 1973. Notes on the current status and distribution of some large mammals in Ethiopia (excluding Eritrea). *Mammalia*, 37(4): 562-586.
- , 1975. National parks and wildlife conservation Nepal. Royal Chitwan National Park management plan, 1975-1979: vii, 105. Kathmandu, UNDP/FAO.
- , 1977. New parks and reserves in Nepal. *Oryx*, 13(5): 473-479, 3 figs, 1 map.
- Bombay natural history society, 1901. Proceedings of the meeting held on 12th March, 1901. *Journal of the Bombay natural history society*, 13(4): 715-718.
- , 1909. Contributions to the museum. *Journal of the Bombay natural history society*, 19(3): 770.
- , 1914. Proceedings of the meeting held on 9th July 1910. *Journal of the Bombay natural history society*, 23(2): 383-384.
- BONANNIUS, Philippus, 1773. *Rerum naturalium historia nempe quadrupedum insectorum piscium variorumque marinorum corporum fossilium plantarum exoticarum ac praesertim testaceorum existentium in Museo Kircheriano*, I: xl, 260. Romae, Zempelliano.
- BONAPARTE, Charles Lucien, 1838a. Synopsis vertebratorum systematis. *Nuovi annali delle scienze naturali*, 2: 105-133.
- , 1838b. A new systematic arrangement of vertebrated animals. *Transactions of the Linnean Society*, London, 18: 247-304.
- , [1839]. *Prodromus systematis mastozologiae*: 13. (no place).
- BONTIUS, Jacobus, 1642. *De medicina Indorum lib. IV*: vi, 212, iv. Lugduni Batavorum, F. Hackius. (New edition with translation edited by M.A. van Andel, *Opuscula selecta neerlandicorum de arte medicina*, 10: i-lxxiv, 1-459.)
- , 1658. *Historiae naturalis & medicae Indiae orientalis libri sex*. Part 3, Pp. 1-228 in: Guilielmus Piso, *De Indiae utriusque re naturali et medica, libri quatuordecim*. Amstelredami, Ludovicus et Daniel Elzevirios.

- BORCHERDS, Petrus Borchardus, 1779. Letter to his father Rev. Meent Borchers (undated). Pp. 205-235 in: Somerville, W. 1979, q.v.
- BORDENEUVE, J., 1925. Les grandes chasses en Indochine: souvenirs d'un forestier: 1, vi, 135. Saigon, Albert Portail.
- BORN, Wolfgang, 1939. More Eastern objects formerly in the Hapsburg collections. *Burlington Magazine*, 75: 64-70, pls. 1-2.
- BORNER, Markus, 1974a. Discovery in Sumatra. *Oryx*, 12(3): 303.
- , 1974b. Reserve for Sumatran rhino. *Oryx*, 12(4): 408.
- , 1974c. Sumatran rhinoceros - conservation. *World Wildlife Yearbook*, 1973-74: 178-180.
- , 1974d. Hoe staat de Sumatraanse neushoorn in Sumatra er voor? *Panda-Nieuws*, 10(2): 11-12, 1 fig.
- , 1974e. De status van de Sumatraanse neushoorn in Atjeh en op Noord-Sumatra. *Panda-Nieuws*, 10(5): 53, 1 fig.
- , 1975a. Sumatra rhinoceros - international conservation programme. *World Wildlife Yearbook*, 1974-75: 170-171.
- , 1975b. Into the unknown. *Wildlife*, 17(4): 157-165, 18 figs, 1 map.
- , 1975c. Shrinking rhino habitat in Sumatra. *Oryx*, 13(2): 121.
- , 1979a. A field study of the Sumatran rhinoceros *Dicerorhinus sumatrensis* Fischer 1814: ecology and behaviour conservation situation in Sumatra: 169. Zürich, Juris (Inaugural-Dissertation Universität Basel).
- , 1979b. What chance have the rhinos. *Oryx*, 15(2): 111-112.
- , 1981. Black rhino disaster in Tanzania. *Oryx*, 16(1): 59-66, 5 figs.
- BORRI, Christophoro, 1633. Cochín-China: containing many admirable rarities and singularities of that country. London, Robert Ashley.
- BOTHMA, J. du P., 1975. Conservation status of the larger mammals of southern Africa. *Biological conservation*, 7: 87-95.
- BOULE, Marcellin, 1900. Etude paléontologique et archéologique sur la station paléolithique du Lac Karar (Algérie). *Anthropologie*, 11: 1-21, figs. 1-24.
- BOURDILLON, Bernard Henry, 1934. With the white rhinoceros in Uganda, the story of two mornings' photography. *Field*, 163: 1170, 2 figs.
- BOURGOIN, Pierre, 1955. Animaux de chasse d'Afrique: 255. Paris, Toison d'or.
- , 1958. Les ongulés dans les territoires de l'union française. *Mammalia*, 22: 371-381.
- BOURLIERE, François, 1965a. Ecological notes on the Tsavo. *African wildlife*, 19(2): 97-107, figs. 1-8.
- , 1965b. Some mammals of the Samburu reserve in northern Kenya. *African wildlife*, 19(3): 192-202, 11 figs.
- , 1965c. Densities and biomasses of some ungulate populations in Eastern Congo and Rwanda, with notes on population structure and lion/ungulate ratios. *Zoologica africana*, 1(1): 199-207, figs. 1-2.
- BOURQUIN, O., John VINCENT & Peter M. HITCHINS, 1971. The vertebrates of the Hluhluwe game reserve - corridor (state-land) - Umfolozi game reserve complex. *Lammergeyer*, 14: 5-58, figs. 1-61.
- BOURRET, René, 1927. La faune de l'Indochine: vertébrés. Inventaire général de l'Indochine: 453. Hanoi, Société de géographie de Hanoi.
- BOUTIN, André, 1937. Monographie de la province des Houa-Phan. *Bulletin des amis du Laos*, 1(1): 69-119, pls. 44-49.
- BOUVEIGNES, Olivier de, 1953. Sparrman et le rhinocéros. *Zooleo*, (N.S.) 21: 85-97, 6 figs.
- BOXER, C.R. (ed.), 1953. South China in the sixteenth century, being the narratives of Galeote Pereira, Fr. Gaspar da Cruz, O.P., Fr. Martin de Rada, O.E.S.A. (1550-1575): xci, 388. London, Hakluyt Society.
- BOYLAN, Patrick J., 1967a. *Didermoceros* Brookes, 1828, v. *Dicerorhinus* Gloger, 1841, (Mammalia: Rhinocerotidae), and the validity of A catalogue of the anatomical and zoological museum of Joshua Brookes, 1828. *Bulletin of zoological nomenclature*, 24(1): 55-56.
- , 1967b. The pleistocene mammalia of the Sewerby-Hessle buried cliff, East Yorkshire.

- Proceedings of the Yorkshire geological society*, 36(1): 115-125.
- & Margaret GREEN, 1974. Request for the suppression of *Didermoceros* Brookes, 1828 (Mammalia). *Bulletin of zoological nomenclature*, 31(3): 135-139.
- BRACHETKA, Julius, 1965. Versuch einer Auswertung von über 8500 Angaben über Krankheits- oder Todesursachen im Schönbrunner Tiergarten. *Zoologische Garten*, (N.F.) 31(1/2): 59-87.
- BRADLEY, John (pseudonym), 1876. A narrative of travel and sport in Burmah, Siam, and the Malay peninsula: vi, 338. London, Samuel Tinsley.
- BRAHMACHARY, R.L., B. MALLIK & B. RAKSHIT, 1970. An attempt to determine the food habits of the Indian rhinoceros. *Journal of the Bombay natural history society*, 67(3): 558-560.
- , B. RAKSHIT & B. MALLIK, 1974. Further attempts to determine the food habits of the Indian rhinoceros at Kaziranga. *Journal of the Bombay natural history society*, 71(2): 295-299.
- BRAND, D.J., 1964a. Verbreitung und zahlenmäßige Aufteilung der südlichen weissen Nashörns (*Diceros simus* Burchell) und des schwarzen Nashörns (*Diceros bicornis* Linnaeus) in Südafrika. *Freunde des Köber Zoo*, 7(2): 67-69, 4 figs, 2 maps.
- , 1964b. Die verspreiding en getalsterkte van die witrenoster (*Ceratotherium simus* Burchell) en swartrenoster (*Diceros bicornis* Linnaeus) in suidelike Afrika. *Zoön*, 2: 1-3, 1 fig.
- BRANDT, Johann Friedrich, 1878a. Tentamen synopses rhinocerotidum viventium et fossilium. *Mémoires de l'Académie impériale des sciences de St. Pétersbourg*, (série 7) 26(5): 1, i-ii, 1-66, figs. 1-4.
- , 1878b. Bemerkungen über eine Synopsis der Familie der Rhinocerotiden. *Bulletin de l'Académie impériale des sciences de St. Pétersbourg*, 24: 167-168.
- , 1878c. Bemerkungen über eine Synopsis der Familie der Rhinocerotiden. *Mélanges biologiques*, 10: 135-137.
- , 1879. [Abstract of] "J.F. Brandt: Tentamen synopses rhinocerotidum viventium et fossilium . . . 1878." *Leopoldina*, Heft 15: 123-124.
- BRASSER, J.G., 1926. Jacht op groot wild in Nederlandsch Oost-Indië: vii, 262. Zutphen, W.J. Thieme & Cie.
- BRAUER, August, 1910. Embryonen des afrikanischen Rhinoceros. *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin*, 1910(9): 389-391, 1 fig.
- BREHM, Alfred Edmund, 1877. Tierleben: allgemeine Kunde des Tierreichs. Grosse Ausgabe, zweite, umgearbeitete und vermehrte Auflage. Erste Abtheilung, Säugethiere III: xii, 756. Leipzig, Bibliographisches Institut.
- BRENTIUS, Johannus, 1527. Hiob cum commentariis, ad Hebraicam veritatem ita translatus, ut nulla porro obscuritas lectorem possit offendere: xxiv, fol. 332. Haganoae, Iohan. Secc.
- BRENTJES, Burchard, 1965. Die Haustierwerdung im Orient: ein archäologischer Beitrag zur Zoologie: 112. Wittenberg-Lutherstadt: A. Ziemsen (Neue Brehm Bücherei, 344).
- , 1967. Tiergärten im alten Orient. *Mitl.*, 2(3): 233-247, figs. 1-12.
- , 1969. Eine Darstellung des bengalischen Javanashörns *Rhinoceros sondaicus inermis*, Lesson, 1840. *Säugetierkundliche Mitteilungen*, 17: 209-211, figs. 1-2.
- , 1973. Naturschutz und Tierparks im alten Orient. *Zoologische Garten*, (N.F.) 43(5): 248-255, figs. 1-6.
- , 1978. Die Nashörner in den alten orientalischen und afrikanischen Kulturen. *Säugetierkundliche Mitteilungen*, 26(2): 150-160, figs. 1-14.
- BRETHNEIDER, Emiliil Vasilevich, 1875. Notes on Chinese mediaeval travellers to the west: record of an embassy to the regions in the west. *Chinese recorder and missionary journal*, 6(1): 1-22.
- , 1910. Mediaeval researches from Eastern Asiatic sources: fragments towards the knowledge of the geography and history of Central and Western Asia from the 13th to the 17th century. I: xii, 334. London, Kegan Paul, Trench, Trübner & Co.
- BREDÉ, H., 1923. Station de gravures rupestres d'Aguilet Abderrahman (Sahara central) d'après les documents rapportés par l'adjudant Fretay. *Anthropologie*, 33: 156-160, figs. 1-4.
- BREUNING, Stephan, 1924. Beiträge zur Stammesgeschichte der Rhinocerotidae. *Verhandlungen der zoologische-botanischen Gesellschaft in Wien*, 73: 5-46, figs. 1-36.

- BRICK, Hans, 1960. Jungle, be gentle: xii, 210. London, Peter Davies.
- BRIDGES, William, 1962. Two square-lipped rhinoceroses come to the zoo. *Animal Kingdom*, 65(5): 146-150, 7 figs.
- BRIGGS, George W., 1931. The Indian rhinoceros as a sacred animal. *Journal of the American oriental society*, 51: 276-282.
- BRIGHTWELL, L.R., 1948. Elephants and rhinoceroses. *Zoo Life*, 3(1): 28-31, 1 fig.
- BRINK, Carel Frederik, 1778. Journal d'un voyage de terre dans l'intérieur d'Afrique par les pays des petites et des grands Namacquas. Part 2, Pp. 1, 1-100 in: Nouvelle description du Cap de Bonne-Espérance, avec un journal historique d'un voyage de terre, fait par ordre du gouverneur feu Mgr. Ryk Tulbagh, dans l'intérieur de l'Afrique, par une caravane de quatre-vingt-cinq personnes. Amsterdam, J.H. Schneider.
- BRISSON, Mathurin Jacques, 1756. Le règne animal divisé en IX classes, ou méthode contenant la division générale des animaux en IX classes, & la division particulière des deux premières classes, savoir de celle des quadrupèdes & de celle des cétacées, en ordres, sections, genres & espèces: iii, vii, 382. Paris, Jean-Baptiste Bauche.
- BROCKLEHURST, Henry Courtney, 1931. Game animals of the Sudan, their habits and distribution: a handbook for hunters and naturalists: xix, 170. London, Edinburgh, Gurney & Jackson.
- BROCKLESBY, D.W., 1967. A Babesia species of the black rhinoceros. *Veterinary record*, 80(15): 484, 1 fig.
- & Brenda O. VIDLER, 1965. Some parasites of East African wild animals. *East African wildlife journal*, 3: 120-122, fig. 1.
- BROD, W.M., 1958. "Jungfer Clara". *Mainfränkische Bilder*, Würzburg, 59:(7), figs. 6-9.
- BRONGERSMA, Leo Daniel, 1937. Some comments upon H.C. Raven's paper: 'Wallace's line and the distribution of Indo-Australian mammals'. *Archives Néerlandaises de zoologie*, 2: 240-256.
- BROWN, H.G., 1831. Ueber die fossilen Zähne eines neuen Geschlechtes aus der Dickhäuter-Ordnung, Coelodonta, Höhlenzahn. *Jahrbuch für Mineralogie, Geognosie, Geologie und Petrefaktenkunde*, 2: 51-61, pl. 1.
- BROOKES, Joshua, 1828. A catalogue of the anatomical & zoological museum of Joshua Brookes, which will be sold by auction, by Mr. George Robins, at the Theatre of Anatomy, Blenheim street, Great Marlborough street, on Monday, the 14th day of July, 1828, and 24 following days (sundays and Mondays always excepted) at 12 o'clock: 76.
- BROOKS, E. St. John, 1954. Sir Hans Sloane: the great collector and his circle: 234. London, Batchworth press.
- BROOKS, Henry, 1876. Natal: a history and description of the colony: including its natural features, productions, industrial conditions and prospects: xi, 336. London, L. Reeve & Co.
- BROOKS, Paul, 1967. The rhinoceros at bay. *Horizon*, winter 1967: 15-21, 116-117.
- BROOM, Robert, 1946. The first white rhino in captivity. *Natural History*, 55(9): 432-433, 3 figs.
- BROUARD, Pierre, 1978. Lisbon's unusual zoo guest, a 3-horn black rhino (*Diceros bicornis*). *International zoo news*, 25(2): 12-13, 2 figs.
- BROWN, W.H., 1905. Exhibition of mounted heads of a white waterbuck and two rhinoceroses. *Proceedings of the Zoological society of London*, 1905(2): 296-297.
- BROWNE, Montagu, 1896. Artistic and scientific taxidermy and modelling: xii, 403. London, Adam and Charles Black.
- BROWNE, William George, 1799. Travels in Africa, and Syria, from the year 1792 to 1798: xxxviii, 496. London, T. Cadell jr. and W. Darses.
- BRUCE, Charles, 1924. Twenty years in Borneo: xi, 266. London etc., Cassel & Co.
- BRUCE, James, 1790. Travels to discover the source of the Nile, in Egypt, Arabia, Abyssinia, and Nubia, V: iii, iv, iii-xiv, 230, x. Edinburgh, J. Ruthven for G.G.J. and J. Robinson in London.
- , 1791. Reisen in das Innere von Africa, nach Abyssinien an die Quellen des Nils. Aus dem Englischen . . . übersetzt von G.W. Cuhn, mit zur Naturgeschichte gehörigen Berichtigungen und Zusätzen versehen von Johann Friedrich Gmelin, II: vi, 430 + Anhang.

- vi, xxv, 176. Leipzig, Job. Ambrosius Barth.
- BROGGEN, A.C. van, 1965a. Waar komen onze breedlipneushoorns vandaan? *Blijdorp-Geluiden*, Rotterdam, 13(9): 2-3, 1 fig.
- , 1965b. Witte neushoorns. *Artis*, Amsterdam, 11(3): 76-81, 6 figs, 1 map.
- BRUNO (12th century). *Expositio in Job*. In: J.P. Migne, *Patrologiae cursus completus Latinae*, vol. 164.
- BRUTON, R. 1963. The rhinos of Southeast Asia. *Conservation news, S.E. Asia*, August 1963: 5-10, 6 figs, 2 maps.
- BRYDEN, Henry Anderson, 1889. Kloof and karroo: sport, legend, and natural history in Cape colony, with a notice of the game birds, and of the present distribution of the antelopes and larger game: xv, 435. London, Longman, Green & Co.
- , 1892. The white rhinoceros (*Rhinoceros simus*). *Field*, 80: 84.
- , 1893. Gun and camera in southern Africa: a year of wanderings in Bechuanaland, the Kalahari desert, and the lake river country, Ngamiland, with notes on colonisation, natives, natural history and sport: xiv, 544. London, Edward Stanford.
- , 1897. Nature and sport in South Africa: xvi, 314. London, Chapman and Hall.
- , 1899. Great and small game of Africa: an account of the distribution, habits, and natural history of the sporting mammals, with personal hunting experiences: xx, 612, 9. London, Rowland Ward.
- BS., 1970. Panzernashorn-Buben kommen schwerer zur Welt. *Tier*, 10(4): 53.
- BUCK, Frank & Edward ANTHONY, 1958. Bring 'em back alive: 288. New York, Hart. (1st edition New York, 1930.)
- BUCKLAND, Charles Thomas, 1889a. Birth of a rhinoceros at Calcutta. *Field*, March 2, 1889: 308.
- , 1889b. Ein Nashorn in der Gefangenschaft geboren. *Zoologische Garten*, (A.F.) 30(7): 223.
- BUCKLAND, Frank, 1870. Strange ice accident to the rhinoceros. *Land and water*, December 31, 1870: 484.
- , 1872. A new rhinoceros at the zoological gardens. *Land and water*, August 10, 1872: 89.
- , 1882. Curiosities of natural history, third series: xv, 353. London, Richard Bentley and Son.
- BUCKLEY, Thomas Edward, 1876. On past and present geographical distribution of the large mammals of South Africa. *Proceedings of the Zoological society of London*, 1876: 277-293.
- BUDDINGH, Steven Adriaan, 1859. Neêrlandsch-Oost-Indië: reizen over Java, Madura, Makassar [... etc.] gedaan gedurende het tijdvak van 1852-1857, I: x, 415. Rotterdam, M. Wyt & zonen.
- BUECHNER, Helmut K., Antonie M. HARTHOORN & J.A. LOCK, 1960. The immobilization of African wild animals in the field, with special reference to their transfer to other areas (U.S. translocation). *Proceedings of the Zoological society of London*, 135: 261-264, pls. 1-4.
- & Sally F. MACKLER, 1976. Breeding behaviour in the Indian rhinoceros. *Proceedings AAPZA conference, 29 Sept.-3 Oct. 1974*: 153-180, figs. 1-5.
- & —, 1978. Breeding behaviour in captive Indian rhinoceros. *Zoologische Garten*, (N.F.) 48(5/6): 305-322, figs. 1-6.
- , —, Herbert R. STROMAN & William A. XANTEN, 1975. Birth of an Indian rhinoceros, *Rhinoceros unicornis*, at the National zoological park, Washington. *International Zoo Yearbook*, 15: 160-165.
- BÜNNEMEIJER, H.A.B., 1921. Reizen in het bergland van midden-Sumatra, II: Over de dwarsketen van den Barissan, uitgaande van de Koerintji-vallei. *Tropische Natuur*, 10(3): 33-37, figs. 5-7.
- BÜRGER, Manfred, 1976. Ein Haus für Elefanten, Flusspferde und Nashörner im zoologischen Garten Magdeburg. *Zoologische Garten*, (N.F.) 46(1/2): 86-98, figs. 1-12.
- BUFFON, Georges-Louis leclerc de, 1778. Addition à l'article du rhinocéros, volume XI, page 70. Pp. 133-135, pl. 67 in: *Histoire naturelle, générale et particulière servant de suite à l'histoire des animaux quadrupèdes*, supplément IV, nouvelle édition: iii, vi, 174. Amsterdam, J.H. Schaeider.

- & Louis Jean Marie de DAUBENTON, [1764]. *Histoire naturelle, générale et particulière, avec la description du Cabinet du Roi*, XI: iv, 451. Paris, l'Imprimerie royale. (Dated 1754 on title-page.)
- BUSSON, Jean, 1923. Sur quelques infusoires nouveaux ou peu connus parasites des mammifères. *Annales de parasitologie, humaine et comparée*, 1(3): 209-246, figs. 1-21.
- BULPHIN, T.V., 1955. *The ivory trail*, 2nd ed.: 205. Cape Town, Howard B. Timmins. (1st ed. 1954)
- BURBRIDGE, F.W., 1880. The gardens of the sun: or a naturalist's journal on the mountains and in the forests and swamps of Borneo and the Sulu archipelago: xix, 364. London, John Murray.
- BURCHELL, William John, 1817. Note sur une nouvelle espèce de rhinocéros. *Bulletin des sciences, par la Société philomatique*, 1817: 96-97, figs. 1-2. (Translated: Ueber eine neue Gattung Nashorn. *Isis, oder encyclopädische Zeitung von Oken*, 1(1817), cols. 1318-1319, figs. 1-2.)
- , 1824. *Travels in the interior of southern Africa*, I: viii, 582; II: vi, 648. London, Longmans, Hurst, Rees, Orme, Brown and Green.
- , [1836]. A list of quadrupeds brought by Mr. Burchell from southern Africa, and presented by him to the British Museum on the 30th September 1817: 8.
- BURCKHARDT, John Lewis, 1822. *Travels in Nubia*, 2nd ed.: v, xcvi, 498. London, John Murray. (1st ed. 1819)
- BURG, Cornelis Leendert van der, 1885. De geneesheer in Nederlandsch-Indië. Derde deel: materia indica: xx, 856. Batavia, Ernst & Co.
- BURGESS, H.E., 1935. Early days in Malaya. *Journal of the Bombay natural history society*, 38(2): 241-257.
- BURGESS, Peter Frederick, 1951. A possible record of the Javan or lesser one-horned rhinoceros in Malaya. *Malayan nature journal*, 5(3): 163.
- , 1961. Wild life conservation in North Borneo. Pp. 143-151, pls. 27-28 in: J. Wyatt-Smith & P.R. Wycherley (eds.), *Nature conservation in western Malaysia*, 1961: 260. Kuala Lumpur, Malayan Nature Society.
- BURKILL, Isaac Henry, 1935. A dictionary of the economic products of the Malay peninsula, II(1-2): 1219-2402. London, Crown agents for the colonies.
- BURNE, Richard Higgins, 1905. [On the viscera of an Indian rhinoceros.] *Proceedings of the Zoological society of London*, 1905: 56-58.
- BURNETT, J.H., 1958. The Manas - Assam's unknown wild life sanctuary. *Oryx*, 4(5): 322-325.
- BURROWS, Guy, 1898. *The land of the pigmies*: xxx, 299. London, C. Arthur Pearson.
- BURTON, Maurice, 1962. *Systematic dictionary of mammals of the world*: 307. London, Museum press.
- BURTON, Richard Francis, 1860. *The lake regions of central Africa: a picture of exploration*; I: xvii, 412; II: vii, 468. London, Longman, Green, Longman and Roberts.
- BURTON, R.W., 1951. Game sanctuaries in Burma (pre-1942) with present status of rhinoceros and thamin. *Journal of the Bombay natural history society*, 49(4): 729-737, pls. 1-2.
- BUSHELL, Stephen W., 1874. The stone drums of the Chou dynasty. *Journal of the North China branch of the Royal Asiatic society*, (N.S.) 8: 133-179, pls. 1-10.
- , 1904. *Chinese art*, I: 156. London, Wyman and sons.
- BUSK, George, 1869. Notice of the discovery at Sarawak in Borneo of the fossilized teeth of rhinoceros and of a cervine ruminant. *Proceedings of the Zoological society of London*, 1869: 409-416, figs. 1-9.
- [BUTLER, John], 1847. A sketch of Assam: with some account of the hill tribes: vi, v-x, 220. London, Smith, Elder & Co.
- BUYS, D.W., 1927. Het hoofd (prauwen) bivak Long Petah. Pp. 41-54, figs. 16-21 in: Midden-Oost-Borneo expeditie 1925, uitgave van het Indisch Comité voor wetenschappelijke onderzoekingen: i, v, 423. Weltevreden, G. Kolff & Co.
- BUYS, Marius, 1900. In het hart der Preanger: v, 214. Leiden, S.C. van Doesburgh.
- BUYS, Simone, 1978. De neushoorn van Dürer. *Zoo*, Antwerpen, 43(4): 106-107, 2 figs.
- CARATON, Antoine (ed.), 1914. *Brève et véridique relation des événements du Cambodge*, par Gabriel Quiroga de San Antonio. Nouvelle édition du texte espagnol avec une traduction et

- des notes: vii, xxviii, 261. Paris, Ernest Leroux.
- CARRAL, Tedesio, Abel PRATAS & Henrique GALVÃO, 1933. Da vida e da morte dos bichos, I: Elefantes e rhinoceroses. Lisboa.
- CARRERA, Angel, 1911. De algunas cornamentas notables que se conservan en el Museo de ciencias de Madrid. *Boletín de la Real sociedad Española de historia natural*, 11: 140-142.
- CALDERINUS, Domitius & Georgius MERULA, 1601. M. Valerii Martialis Epigrammatum libri XIV. Domitii Calderini commentariis perpetuis, & Georgii Merulae observationibus, illustrati: xv, 851. Parisiis, Claudius Morellus. (1st ed. by Calderinus: Commentarii in Martialem, 1474.)
- CAMERARIUS, Joachimeus Jr., 1595. Symbolorum et emblematum ex animalibus quadrupedibus desumptorum centuria altera: exponuntur in hoc libro rariores tum animalium proprietates tum historiae ac sententiae memorabiles: 116. Norimberg, P. Kaufmann.
- CAMERON, Verney Lovett, 1877. Across Africa, I: xvi, 389. London, Daldy, Isbister & Co.
- CAMPBELL, George, 1957. Rhino on two legs. *Field*, 209: 570.
- CAMPBELL, John, 1821. Noch ein Einhorn! *Notizen aus dem Gebiete der Natur- und Heilkunde*, 1(10): 153-154.
- , 1822. Ueber die von dem Missionair Campbell entdeckte neue Art Rhinoceros. *Notizen aus dem Gebiete der Natur- und Heilkunde*, 2(7): 96, 1 fig.
- CAMPER, Adriaan Gilles, 1809. [Beschrijving van Camper's anatomisch, geologisch en mineralogisch kabinet op Klein Lankum bij Franeker.] *Jaarboeken der wetenschappen en kunsten in het koninkrijk Holland*, 1: 68-98. (Reprinted in: *Almanak der Akademie van Groningen*, 9(1821): 12-56.)
- , 1811. Description succincte du Musée de Pierre Camper: viii, 93. Amsterdam et la Haye, frères van Cleef.
- CAMPER, Petrus, 1767. Epistolam ad anatomicorum principem magnum Albinum: i, 29. Groningae, Henricus Crebas.
- , 1780. Dissertatio de cranio rhinocerotis Africani, cornu gemino. *Acta Academiae scientiarum imperialis Petropolitanae*, 1 (pars post): 193-209, pls. 5-8.
- , 1782. Natuurkundige verhandelingen over den orang outang: en eenige andere aapsoorten. Over den rhinoceros met den dubbelen horen: en over het rendier: iv, 235, ii. Amsterdam, erven P. Meijer en G. Warnars.
- , 1791. Naturgeschichte des Orang-Utang und einiger andern Affenarten, des Afrikanischen Nashorn, und des Rennthiers. Ins Deutsch übersetzt, und mit den neuesten Beobachtungen des Verfassers herausgegeben von J.F.M. Herbell: 224. Düsseldorf, Johann Christian Dänzer.
- , 1793. Aus einem Briefe des nun verstorbenen h. Professors Camper aus Leuwarden, aus dem franz. *Neue Nordische beyträge*, 6: 249-250.
- , 1803. Du rhinocéros à deux cornes. Pp. 197-290 in: *Oeuvres de Pierre Camper, qui ont pour objet l'histoire naturelle, la physiologie et l'anatomie comparée* [translated by H.J. Jansen], I: civ, 392. Paris, H.J. Jansen.
- CANTOR, Theodore, 1846. Catalogue of mammalia inhabiting the Malayan peninsula and islands. *Journal of the Asiatic society of Bengal*, 15: 241-279.
- CAP, Paul-Antoine, 1854. Le muséum d'histoire naturelle: v, 180, 239. Paris, L. Curmer.
- CAPELLO, Hermenegildo Carlos de Brito & Roberto IVENS, 1886. De Angola à contra-costa: descrição de uma viagem através do continente Africana, II: xiii, 490. Lisboa, Imprensa nacional.
- CAPITOLINUS, Julius, Antonius Pius, X 8-9.
- , Gordianus tres, XXXIII.
- CARBOU, Henri, 1912. La région du Tchad et du Ouadal, études ethnographiques. Dialecte toubou, I: i, ii, 380. Paris, Ernest Leroux (Publications de la Faculté des lettres d'Alger. Bulletin de correspondance africaine, vol. 47.)
- CARDANUS, Hieronymus, 1559. De subtilitate libri XXI, nunc demum ab ipso auctore recogniti, atque perfecti: 718 + index. Lugduni, Gulielmus Rouillius.
- CARLETTI, Francesco, 1964. My voyage around the world. Translated from the Italian by Herbert Weinstock: vii-xv, 270. New York, Pantheon books. (Original: Ragionamenti del

- mio viaggio intorno al mondo, ca. 1701.)
- CARMODY, Francis J., 1939. *Physiologus Latinus*: éditions préliminaires versio B: 63. Paris, E. Droz.
- CARPENTER, Clarence Ray, 1938. A survey of wild life conditions in Atjeh, North Sumatra, with special reference to the orang-utan. *Mededelingen Nederlandse commissie voor internationale natuurbescherming*, 12: 39-72, 1 pl., maps 1-3.
- CARSON, G.L., 1968. Conservation in Sabah, Malaysia. *IUCN Publications*, (N.S.) 10: 492-497.
- CARTER, Nick, 1965. The arm'd rhinoceros: 284. London, Andre Deutsch.
- CARTER, T. Donald & John Eric HILL, 1942. Notes on the lesser one-horned rhinoceros, *Rhinoceros sondaicus*, 1: A skull of *Rhinoceros sondaicus* in the American museum of natural history. *American museum novitates*, 1206: 1-3, 1 pl.
- , — & George H.H. TATE, 1946. *Mammals of the Pacific world*: xvii, 227. New York, MacMillan.
- CASAL, U.A., 1938. The carved rhinoceros horns of China. *Antiques*, 33: 28-31, figs. 1-13.
- , 1940. Carved rhinoceros horns of China. *Cultureel Indië*, 2: 212-216, figs. 1-9.
- CASH, Betty & Allan CASH, 1971. The Indian rhinoceros at home. *Field*, 238: 89, 1 fig.
- CASPERD, Neil Mountfort, 1971. A diary version of a... rhino rescue. *Africana*, 4(5): 15, 3 figs.
- CASTANHEIRA, Fernão Lopes de, 1833. *Historia do descobrimento e conquista da Índia pelos portugueses*. Nova edição, livro III: vi, 528. Lisboa, typographica Rollandiano.
- CASTILHO, Julio de, 1956. A ribeira de Lisboa: descrição histórica da margem do Tejo desde a madre de deus até Santos-o-velho, 3rd ed., II: 288. Lisboa. (1st ed. 1893.)
- CATALOGUS van de ethnologische verzameling der instelling voor onderwijs in de taal- land- en volkenkunde van Nederlandsch Indië te Delft: vi, 136(1888).
- CAUGHLEY, Graeme, 1969. Surveys and demonstration for the management of the Trisuli watershed: wildlife and recreation. FAO/UNDP Trisuli watershed development project, report no. 6, Kathmandu.
- , 1970. Nepal's rhinos are disappearing. *Oryx*, 10(4): 212-213.
- CAVE, Alexander James Edward, 1947. Burchell's rhinocerotine drawings. *Proceedings of the Linnean society of London*, 159: 141-146, pls. 4-5, figs. 1-2.
- , 1953a. Richard Owen and the discovery of the parathyroid glands. *Science, medicine and history*, 2: 217-222, figs. 1-3.
- , 1953b. The glands of Owen. *St. Bartholomew's hospital journal*, 57(6): 131-133.
- , 1957. The muscles of Owen. *St. Bartholomew's hospital journal*, 61(5): 138-140.
- , 1958a. The hide of a rhinoceros. *St. Bartholomew's hospital journal*, June 1958: 3 pp.
- , 1958b. The pedal glands of Owen. *St. Bartholomew's hospital journal*, 1958: 4 pp.
- , 1959. The foramen ovale in the Rhinocerotidae. *XVth International congress of zoology*, section V, paper 20: 1-3.
- , 1962a. The pedal scent gland in Rhinoceros. *Proceedings of the Zoological society of London*, 139: 685-690, pls. 1-2.
- , 1962b. Burchell's original specimens of Rhinoceros simus. *Proceedings of the Zoological society of London*, 139: 691-700, pls. 1-4.
- , 1963a. The white rhinoceros in Uganda. *Oryx*, 7(1): 26-29, 1 map.
- , 1963b. Galen and the thymus gland. *St. Bartholomew's hospital journal*, 67(5): 3 pp, fig. 1.
- , 1964a. The thymus gland in three genera of rhinoceros. *Proceedings of the Zoological society of London*, 142(1): 73-83, pls. 1-4, figs. 1-3.
- , 1964b. The processus glandis in the Rhinocerotidae. *Proceedings of the Zoological society of London*, 143(4): 569-586, pls. 1-2, figs. 1-5.
- , 1965. Traction epiphyses in the mammalian skull. *Proceedings of the Zoological society of London*, 145(4): 495-508, pls. 1-2, figs. 1-7.
- , 1966. The preputial glands of Ceratotherium. *Mammalia*, 30(1): 153-159, figs. 1-3.
- , 1969. Hairs and vibrissae in the Rhinocerotidae. *Journal of zoology*, 157(2): 247-257, pls. 1-2, figs. 1-2.
- , 1973. The bursa epipharyngea in the Sumatran rhinoceros (*Didemocrus sumatrensis*). *Mammalia*, 37(4): 654-657, fig. 1.

- , 1974a. The epipharyngeal bursa in the Rhinocerotidae. *Journal of zoology*, 172(1): 133-145, figs. 1-9.
- , 1974b. Bilocular epipharyngeal bursa in *Diceros bicornis*. *Journal of zoology*, 174(2): 159-160, fig. 1.
- , 1975. Postcava structure in elephant and rhinoceros. *Journal of zoology*, 176(4): 559-565, figs. 1-4.
- , 1976a. The epipharyngeal bursa of an Indian rhinoceros. *Mammalia*, 40(1): 105-109, figs. 1-2.
- , 1976b. The thyroid and parathyroid glands in the Rhinocerotidae. *Journal of zoology*, 178: 413-442, figs. 1-13.
- , 1976c. Note on rhinoceros thyroid gland constitution. *Journal of zoology*, 179(4): 557-560, figs. 1-2.
- , 1977. Observations on rhinoceros tongue morphology. *Journal of zoology*, 181: 265-284, pl. 1, figs. 1-6.
- , 1978. Observations upon rhinoceros cervical lymphatics. *Journal of zoology*, 185(1): 13-26, figs. 1-10.
- , 1979a. The rhinoceros faucial and laryngopharyngeal tonsils. *Journal of zoology*, 187: 471-503, pl. 1, figs. 1-16.
- , 1979b. The mammalian temporo-ptyergoid ligament. *Journal of zoology*, 188(4): 517-532, figs. 1-12.
- , 1980. The rhinoceros lingual intrinsic musculature. *Mammalia*, 44(1): 123-128, figs. 1-3.
- , 1981. Observations on the rhinoceros cardiac receptor system. *Journal of zoology*, 195: 243-254, pl. 1, figs. 1-7.
- , 1982. Note on rhinoceros salivary glands. *Journal of zoology*, 196(1): 53-61, figs. 1-5.
- & D.B. ALLBROOK, 1958. Epidermal structures in a rhinoceros (*Ceratotherium simum*). *Nature*, 182: 196-197.
- & —, 1959. The skin and nuchal eminence of the white rhinoceros. *Proceedings of the Zoological society of London*, 132: 99-107, pl. 1, figs. 1-2.
- & F.J. AUMONIER, 1962a. Elephant and rhinoceros lymph-node histology. *Journal of the Royal microscopical society*, 80(3): 209-214, pls. 40-41, figs. 1-2.
- & —, 1962b. Lymph node structure in the Sumatran rhinoceros. *Journal of the Royal microscopical society*, 81(2): 73-77, pl. 24, figs. 1-2.
- & —, 1963a. The visceral histology of the Sumatran rhinoceros. *Journal of the Royal microscopical society*, 82(1): 29-37, pls. 11-14, figs. 1-4.
- & —, 1963b. Lymph node structure in *Diceros bicornis*. *Journal of the Royal microscopical society*, 82(2): 107-110, pl. 20.
- & —, 1964a. Lymph node structure in *Rhinoceros unicornis*. *Journal of the Royal microscopical society*, 83(3): 251-253, pl. 107, fig. 1.
- & —, 1964b. Lymph node structure in *Ceratotherium*. *Journal of the Royal microscopical society*, 83(4): 425-431, pls. 183-185, figs. 1-5.
- & —, 1964c. Preputial skin and glands in *Ceratotherium* and *Diceros*. *Journal of the Royal microscopical society*, 84(1): 55-64, figs. 1-9.
- & —, 1966. Parathyroid histology in the Rhinocerotidae. *Journal of the Royal microscopical society*, 86(1): 51-57, figs. 1-7.
- & Leendert Cornelis ROOKMAAKER, 1977. Robert Jacob Gordon's original account of the African black rhinoceros. *Journal of zoology*, 182: 137-156, pls. 1-7, figs. 1-2.
- & K.G. WINGSTRAND, 1972. Palpebral vibrissae in the Sumatran rhinoceros (*Didemnocerus sumatrensis*). *Journal of zoology*, 167(3): 351.
- CAVEREL, Philippe de, 1859. Ambassade en Espagne et en Portugal, (en 1582), de R.P. en Dieu Dom Jean Sarrazin, abbé de St. Vaast . . . : 413. Arras, A. Courtin.
- CERNY, Vladimir, 1958. Fund von zwei Amblyomma-Arten vom Nashorn (*Diceros bicornis*). *Zoologische Garten*, (N.F.) 24(3/4): 287-288, 1 fig.
- CHADWICK, W.S., 1930. Life stories of big game: 219. London, H.F. & G. Witherby.
- CHAKRABORTY, S., 1972. On some cranial features of the living Asian genera of the family Rhinocerotidae (Mammalia: Perissodactyla). *Proceedings of the Zoological society, Calcutta*, 25(2): 123-128, figs. 1-2.

- CHAKRAVARTI, Monmohan, 1906. Animals in the inscriptions of Piyadasi. *Memoirs of the Asiatic society of Bengal*, 1(17): 361-374.
- CHANG, H.T., 1926. On the question of the existence of elephants and rhinoceros in North China in historical times. *Bulletin of the Geological society of China*, 5: 99-105.
- CHAPMAN, Abel, 1908. On safari: big-game hunting in British East Africa, with studies in bird-life: xvi, 340. London, Edward Arnold.
- , 1921. Savage Sudan: its wild tribes, big-game and bird-life: xx, 452. London/Edinburgh, Gurney and Jackson.
- , 1922. The white rhinoceros of the Sudan. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 2: 44-45.
- CHAPMAN, James, 1868. Travels in the interior of South Africa, comprising fifteen years' hunting and trading; with journeys across the continent from Natal to Walvisch bay, and visits to Lake Ngami and the Victoria Falls, I: xv, 454. London, Bell & Daldy and Edward Stanford.
- CHARDIN, Jean, 1711. Voyages en Perse, et autres lieux de l'Orient, III: contenant une description particulière de la ville d'Ispahan, capitale de Perse, & la relation de deux voyages de l'auteur d'Ispahan à Baudar-Abassi: 254 + index. Amsterdam, Jean Louis de Lorme.
- CHARTROU, Joseph, 1928. Les entrées solennelles et triomphales à la renaissance (1484-1551): 158. Paris, Presses universitaires de France (Thèse complémentaire pour le doctorat ès lettres présentée à la Faculté des lettres de l'Université de Paris).
- CHASEN, Frederick Nutter, 1940. A handlist of Malaysian mammals: a systematic list of the mammals of the Malay peninsula, Sumatra, Borneo and Java, including the adjacent small islands. *Bulletin of the Raffles museum*, 15: i-xx, 1-209, 1 map.
- CHAVANNES, Emmanuel Edouard, 1898. Les mémoires historiques de Se-ma ts'ien traduits et annotés, III (chapitres 13-30): vi, 710. Paris, Ernest Laroux.
- , 1904. Notes additionnelles sur les Tou-Kiue (Turcs) occidentaux. *Toung Pao*, (2) 5: 1-110, 1 fig.
- CHEMINAUD, Guy, 1939. Mes chasses au Laos: les bêtes sauvages de l'Indochine: 238. Paris, Payot.
- CHENU, Jean Charles & E. DESMAREST, [1858]. Encyclopédie d'histoire naturelle ou traité complet de cette science . . . IV: Pachydermes, ruminants, édentés, cétacés, marsupiaux et monotrèmes: vii, 360. Paris, Maresq et Co., Gustave Havard.
- CHESEMORE, David L., 1970. Notes on the mammals of southern Nepal. *Journal of mammalogy*, 51: 162-166.
- CHILD, Graham, 1968. Behaviour of large mammals during the formation of Lake Kariba: vi, 123. Salisbury, Trustees of the National museums of Rhodesia (Kariba studies).
- & C.R. SAVORY, 1964. The distribution of large mammal species in southern Rhodesia. *Arnoldia*, 1(14): 1-15, figs. 1-32.
- CHIN, Lucas, 1971. Protected animals in Sarawak. *Sarawak museum journal*, (N.S.) 19(38-39): 359-361.
- CHINDAHL, George L., 1954. The circus in early Chicago. *White Tops*, 27(6): 3, 5-7, 2 figs.
- , 1959. A history of the circus in America: xvi, 279. Caldwell, Caxton.
- CHOCHOD, Louis, 1950. La faune indochinoise: vingt-cinq années de chasses au Tonkin et en Annam: 200. Paris, Payot.
- CHOISY, François Timoléon de, 1687. Journal ou suite du voyage de Siam, en forme des lettres familières fait en M.D.C. LXXXV. et M.D.C. LXXXVI: iv, 377. Amsterdam, Pierre Mortier.
- CROWDHURY, T., 1966. A note on breeding Indian rhinoceroses, *Rhinoceros unicornis*, at Gauhati zoo. *International Zoo Yearbook*, 6: 197.
- CHRISTISON, Philip, 1945. A note on the present distribution of the Sumatran rhinoceros (*Dicerorhinus sumatrensis*) in the Arakan district of Burma. *Journal of the Bombay natural history society*, 45(4): 604-605, 1 map.
- CHRISTOPHER, Sydney Albert, 1916. Big game shooting in lower Burma: i, viii, 372. Rangoon, Burma pictorial press.
- CHRISTY, Cuthbert, 1923. The white rhinoceros. *Journal of the Society for the preservation of*

- the wild fauna of the Empire*, (N.S.) 3: 63-65.
- , 1924. Big game and pygmies: experiences of a naturalist in Central African forests in quest of the okapi. xxxi, 325. London, MacMillan & Co.
- CHUBB, Ernest Charles, 1909. The mammals of Matabeleland. *Proceedings of the Zoological society of London*, 1909: 113-125.
- CHURCHILL, Winston Leonard Spencer, 1962. My African journey: x, 150. London, Holland press, Neville Spearman. (1st ed. London, 1908.)
- CHUS, Jacobus Anna van der (ed.), 1889. Dagh-register gehouden int Casteel Batavia vant passerende daer ter plaetse als over geheel Nederlands-India, anno 1661: i, 557. Batavia, Landsdrukkerij and 's Hage, M. Nijhoff for Bataviaasch genootschap van kunsten en wetenschappen.
- CILLIE, Hettie, 1949. Zuluana die witrenoster: 38. Pretoria, J.C. van Schaik.
- CLARK, Austin Hobart, 1914. Nocturnal animals. *Journal of the Washington academy of sciences*, 4: 139-142.
- CLARKE, Timothy H., 1973. The iconography of the rhinoceros from Dürer to Stubbs, part I: Dürer's ganda. *Connoisseur*, 184 (739): 2-13, figs. 1-18 + 1 colour-figure.
- , 1974. The iconography of the rhinoceros, part II: The Leyden rhinoceros. *Connoisseur*, 185(744): 113-122, figs. 1-23 + 1 colour-figure.
- , 1975a. A European rhino hunt. *Times*, October 25, 1975: 7, 1 fig.
- , 1975b. Das Northumberland-Service aus Meissener Porzellan. *Keramos*, 70: 9-92, figs. 1-184 (pp. 77-92 English text).
- , 1976. The rhinoceros in European ceramics. *Mitteilungsblatt Keramik Freunde der Schweiz*, 89: 3-20, figs. 1-62.
- CLAUSEN, B., 1981. Survey for trypanosomes in black rhinoceros (*Diceros bicornis*). *Journal of wildlife diseases*, 17(4): 581-586.
- & W.A. ASHFORD, 1980. Bacteriologic survey of black rhinoceros (*Diceros bicornis*). *Journal of wildlife diseases*, 16(4): 475-480.
- CLELAND, John, 1969. Royal zoological society of South Australia Incorporated, early history 1878-1900: part II. *Annual report of the Royal zoological society of South Australia*, 91: 25-28.
- CLEMENT, Ernest Wilson, 1907. Japanese medical folk-lore. *Transactions of the Asiatic society of Japan*, 35: 15-32, 2 figs.
- CLIFFORD, Hugh Charles, 1927. In court & kampong being tales and sketches of native life in the Malay peninsula, 2nd ed.: iv, 255. London, Richard Press. (1st ed. 1897)
- CLUTTON-BROCK, Juliet, 1965. Excavations at Langhnaj: 1944-63, part II: The fauna: xxiii, 44. Poona, Deccan college.
- COBARRUVIAS, Sebastian de, 1611. Tesoro de la lengua Castellana, o Española: xx, 602, 79. Madrid, Luis Sanchez.
- COBBOLD, T. Spencer, 1879. Parasites; a treatise on the Entozoa of man and animals, including some account of the Ectozoa: x, 508. London, J. & A. Churchill.
- COCKBURN, John, 1883. On the recent existence of *Rhinoceros indicus* in the North Western provinces, and a description of a tracing of an archaic rock painting from Mirzapore representing the hunting of this animal. *Journal of the Asiatic society of Bengal*, 52(II, 1): 56-64, pls. 7-8.
- , 1884. On the recent extinction of a species of rhinoceros in the Rajmahal hills, and *Bos gaurus* in the Mirzapur district. *Proceedings of the Asiatic society of Bengal*, September 1884: 140-141.
- COENRAAD-UHLIG, Vera, 1933. Vom Gefangenleben eines jungen Nashorns. *Zoologische Garten*, (N.F.) 6(4/6): 114-116, figs. 1-5.
- COLBERT, Edwin Harris, 1942. Notes on the lesser one-horned rhinoceros, *Rhinoceros sondaicus*, 2: The position of *Rhinoceros sondaicus* in the phylogeny of the genus *Rhinoceros*. *American museum novitates*, 1207: 1-6, figs. 1-3.
- & Dirk Albert HOOVER, 1953. Pleistocene mammals from the limestone fissures of Szechwan, China. *Bulletin of the American museum of natural history*, 102(1): 1-134, pls. 1-40, figs. 1-42.
- COLE, Francis Joseph, 1953. The history of Albrecht Dürer's rhinoceros in zoological

- literature. *Science, medicine and history*, 1: 337-356, figs. 1-22.
- COLLESSO, Vincentius, 1701. M. Valerii Martialis epigrammata, paraphrasi et notis variorum selectissimis, ad usum serenissimi delphini, interpretatus est: unpag., 600, 142. Amstelædami, G. Gallet.
- COLLET, Octave J.A., 1925. Terres et peuples de Sumatra: xvi, 562. Amsterdam, Société d'édition 'Elsevier'.
- COLONNA, (?), 1938. Monographie de la province de Saravane. *Bulletin des amis du Laos*, 2(2): 81-121.
- COMYN-PLATT, Thomas, 1937a. A report on fauna preservation in Malaya. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 30: 45-52.
- , 1937b. A report on fauna preservation in British North Borneo. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 30: 52-55.
- CONDY, J.B., 1964. The capture of black rhinoceros (*Diceros bicornis*) and buffalo (*Syncerus caffer*) on Lake Kariba. *Rhodesian journal of agricultural research*, 2(1): 31-34, pls. 1-2.
- , 1966. [Effects of M285 and M99 on black rhinoceros.] *M-series, veterinary applications report*, 50: 1-4. Hull, Reckitt & Sons.
- & E. DAYSON, 1964. The importation of eight square-lipped rhinoceros (*Ceratotherium simum*) to southern Rhodesia. *African wildlife*, 18(1): 13-21, 5 figs.
- , J.I.M. McCULLOCH, J.O.K. RODGER & J.W. THOMSON, 1963. The treatment of eight square-lipped rhinoceros (*Ceratotherium simum*) with an anthelmintic. *Journal of the South African veterinary medical association*, 34(1): 99-101.
- CONOVER, Richard E., 1959. The Great Forepaw show: America's largest circus from 1864 to 1894: ii, 17. Xenia, Conover.
- CONRAD, Roswitha, 1968. Die Haustierte in den frühen Kulturen Indiens. *Säugetierkundliche Mitteilungen*, 16: 189-258, figs. 1-16.
- CONSTABLE, J.D., 1982. Visit to Vietnam. *Oryx*, 16(3): 249-254, 4 figs.
- COOKE, C.K., 1964. Animals in Southern Rhodesian rock art. *Arnoldia*, 1(13): 1-22, figs. 1-10.
- COOKE, H.B.S., 1950. A critical revision of the quaternary Perissodactyla of southern Africa. *Annals of the South African museum*, 31(4): 393-479, figs. 1-31.
- COOLIDGE, Harold J., 1964. Vanishing mammals of Asia. Pp. 33-36 in: Proceedings, XVI International congress of zoology, vol. 8: The problem of vanishing species: vii, 38. Washington, D.C.
- COOMANS DE RUITER, Louis, 1928. Wildreservaten in Zuid-Sumatra en in de Minahasa. *Mededeelingen Nederlandsche commissie voor internationale natuurbescherming*, 4: 32-39.
- , 1948-49. Natuurbescherming in Nederlandsch-Indië. *Indonesië*, 2: 140-162.
- , 1957. Een terugblik (?). *Blijdorp-Geluiden*, Rotterdam, 5(9): 2-7, figs. 1-8.
- COOMARASWAMY, Ananda Kentish, [1912]. Indian drawings: second series, chiefly Rajput: 34 (London, India Society.)
- COPE, Edward Drinker, 1881. The systematic arrangement of the order Perissodactyla. *Proceedings of the American philosophical society*, 19: 377-401, figs. 1-2.
- CORDES, Jan Willem Hugo, 1881. De Djati-boschen op Java; hunne natuur, verspreiding, geschiedenis en exploitatie: vii, 318. Batavia, Ogilvie.
- CORNER, Edred John Henry, 1964. Royal Society expedition to North Borneo, 1961: Reports. General report. *Proceedings of the Linnean society of London*, 175(1): 9-32, figs. 1-4, pls. 1-18.
- CORREA, Gaspar, 1860. *Lendas da India*, livro segundo: 482. Lisboa, Academia real das sciencias.
- CORYNDON, Robert Thorne, 1894. On the occurrence of the white or Burchell's rhinoceros in Mashonaland. *Proceedings of the Zoological society of London*, 1894: 329-334, pl. 18.
- COSMAS INDIKOPEUSTES, (6th century). *Christiana topographica, sive christianorum opinio de mundo*. In: J.P. Migne, *Patrologiae cursus completus Graeca*, vol. 88. (Translation by J.W. McCrindle, *The Christian topography of Cosmas, an Egyptian monk*. London, Hakluyt society, 1897.)
- COSTA, Abel Fontoura da, 1937. Deambulations of the rhinoceros (ganda) of Muzafar, king

- of Cambaia, from 1514 to 1516: 53, figs. 1-6. Lisbon. (Simultaneously published in Portuguese and French.)
- COOKE, Christine, 1946. Anciennes figurations du rhinocéros de l'Inde: à propos du frontispice de l'ouvrage de Wilhelm Pison "De Indiae utriusque re naturali et medica", édité à Amsterdam en 1658. *Acta Tropica*, 3(2): 116-129, figs. 1-12.
- COUPERUS, G.W., 1887. Le gibier et la chasse à Java. *Revue coloniale internationale*, 2: 299-334.
- COWLES, Raymond B., 1959. Zulu journal: field notes of a naturalist in South Africa: xiv, 267. Berkeley/Los Angeles: Univ. of California Press.
- COX, Percy Zachariah, 1900. Notes on Somaliland, part I. *Journal of the Bombay natural history society*, 13(1): 86-99.
- COYER, Gabriel François, 1769. Bagatelles morales, nouvelle édition considérablement augmentée: viii, 300. Londres.
- CRANDALL, Lee Saunders, 1968. The management of wild mammals in captivity: xv, 769. Chicago/London, Univ. of Chicago press.
- CRAWFORD, John, 1828. Journal of an embassy from the Governor-General of India to the courts of Siam and Cochin China; exhibiting a view of the actual state of those kingdoms: viii, 598. London, Henry Colburn.
- CROOKE, William, 1926. Religion & folklore of northern India: iii, 471. London etc., Oxford Univ. press.
- CRUZ, Daniel da, 1979. Rhino. *New scientist*, 83(1165): 312.
- CTESIUS OF CNIDUS (4th century B.C.). Indica, caput 25.
- CURRY-LINDAHL, Kai, 1966a. The current situation in the Albert and Garamba national parks, Congo. *IUCN-Bulletin*, (N.S.) 1(20): 3, 1 fig.
- , 1966b. Encouraging report on the Congo national parks. *Oryx*, 8(5): 293-294.
- , 1972. War and the white rhinos. *Oryx*, 11(4): 263-267.
- CURTIUS, Quintus (ca. 50). *Historiarum Alexandri Magni Macedonis*, VIII, ix, 16 and IX, i, 5.
- CUVIER, Frédéric, 1825. Des dents des mammifères, considérées comme caractères zoologiques, I: iv, 258; II (planches). Paris, Le Normant et Strasbourg/Paris, F.G. Levrault.
- CUVIER, Georges Léopold Chrétien Frédéric Dagobert, 1797. Sur les différentes espèces de rhinocéros. *Bulletin des sciences, par la Société philomatique*, Juin 1797: 17.
- , 1798. Tableau élémentaire de l'histoire naturelle des animaux: xvi, 710. Paris, Baudouin.
- , 1804a. Le rhinocéros unicolore, *Rhinoceros unicornis*. Livraison 9, pp. 1-8, pl. 33 in: B.G. Etienne de la ville, comte de Lacépède, Georges Cuvier & Etienne Geoffroy Saint-Hilaire, 1801-1805. La ménagerie du Muséum national d'histoire naturelle, ou les animaux vivants, peints d'après nature, sur vélin, par le citoyen Maréchal... avec une note descriptive et historique pour chaque animal. Paris, Miger, Patris, Gilbert, Grandcher & Dents.
- , 1804b. Description ostéologique du rhinocéros unicolore. *Annales du Muséum national d'histoire naturelle*, 3: 32-52, pls. 3-5.
- , 1806. Sur les rhinocéros fossiles. *Annales du Muséum national d'histoire naturelle*, 7: 19-52, pls. 1-4.
- , 1810. Vorlesungen über vergleichende Anatomie. Gesammelt und unter seinen Augen herausgegeben von G.L. Duvernoy, übersetzt von I.F. Meckel, IV: xx, 734. Leipzig, Paul Gottlieb Kummer.
- , 1812a. Description ostéologique du rhinocéros unicolore. Part 3, pp. 1-21, 4 pls. in: Recherches sur les ossements fossiles de quadrupèdes, ou l'on rétablit les caractères de plusieurs espèces d'animaux que les révolutions du globe paroissent avoir détruites, II: contenant les pachydermes des couches meubles et des terrains d'alluvion. Paris, Deterville.
- , 1812b. Sur les ossements fossiles de rhinocéros. Part 4, pp. 1-33, 3 pls. in: Recherches sur les ossements fossiles. . . . II. Paris, Deterville.
- , 1816. Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée, I: xxxvii, 540. Paris, Deterville. (Date on title-page 1817.)

- , 1822. Recherches sur les ossements fossiles, où l'on rétablit les caractères de plusieurs animaux dont les révolutions du globe ont détruit les espèces. Nouvelle édition, entièrement refondue, et considérablement augmentée, II(1): i, 232. Paris/Amsterdam, G. Dufour et E.D'Ocagne.
- , 1829. Le règne animal . . . , nouvelle édition, revue et augmentée, I: xxxviii, 584. Paris, Deterville et Crochard.
- , 1836a. Le règne animal . . . , 3rd ed., I: iii, iv, v-xxii, 626. Bruxelles, Louis Hauman & Co.
- , 1836b. Recherches sur les ossements fossiles. . . , 4th ed., Atlas I: iii, 94, pls. 1-161. Paris, Edmond d'Ocagne.
- D., 1933. Capturing a Nepal rhino: a gentle art with a very ungentle quarry. *Field*, 162: 769-770, 3 figs.
- DALES, D.H., 1966. Black and white rhinos in the Umfolosi game reserve. *Redwing*, Journal of the S.Andrew's college natural history society, Grahamstown, 1966: 32.
- DAMIAN, Mischa, [n.d.] Die eekhorning en die renostertjie. No place, Universiteits-uitgevers en boekhandelars. (Original in German.)
- DAMMERMAN, Karel Willem, 1924. De Zoögeographie van Java. *Handelingen 3e Nederlandsch-Indisch natuurwetenschappelijk congres, Buitenzorg, 25-28 september 1924*: 340-355.
- , 1926. The fauna of Durian and the Rhio-Lingga archipelago. *Treubia*, 8(3/4): 281-326.
- , 1929a. Preservation of wild life and nature reserves in the Netherlands Indies. *Fourth Pacific science congress, Java*: 1-91, pls.1-20.
- , 1929b. On the zoogeography of Java. *Treubia*, 11(1): 1-88.
- , 1932. De nieuw-ontdekte orang pendek. *Tropische Natuur*, 21(8): 123-131, figs. 1-3.
- , 1934a. Voorhistorische mensen en dieren in Java. *Tropische Natuur*, 23(12): 229-235, figs. 1-2.
- , 1934b. On prehistoric mammals from the Sampoeng cave, Central Java. *Treubia*, 14: 477-486, pl.11.
- , 1937. Over record-jachttrophoeën in het Zoologisch museum te Buitenzorg. *Tropische Natuur*, 26(3): 48-50.
- DANIEL, Samuel, 1805. African scenery and animals: (unpag.) London, S. Daniell. (Published in parts; facsimile reprint Cape Town, Balkema, 1976.)
- DANNENFELDT, Karl Henry, 1968. Leonhard Rauwolf, sixteenth-century physician, botanist, and traveller: xi, 321. Cambridge, Mass., Harvard university press.
- DAPPER, Olfert, 1668. Naukeurige beschrijvinge der Afrikaensche gewesten van Egypten, Barbarijen, Libyen, Biledulgerid, Negrosland, Guinea, Ethiopien, Abyssinie: vertoont in de benamingen, grenspalen, steden, revieren, gewassen, dieren, zeeden, drachten, talen, rijkdommen, godsdiensten en heerschappijen: viii, 728, xviii. Amsterdam, Jacob van Meurs.
- , 1670. Beschrijving des keizerrijks van Taising of Sina, vertoont in de benaming, grenspalen, steden, stroomen, bergen, gewassen, dieren, gods-dienst, tale, letteren, & c. Amsterdam, Jacob van Meurs.
- DARLING, F. Fraser, 1960. Wild life in an African territory: a study made for the game and tsetse control department of Northern Rhodesia: ix, 160. London, New York, Toronto, Oxford university press.
- DARWIN, Charles, 1875. The variation of animals and plants under domestication, 2nd ed., revised, II: x, 495. London, John Murray.
- DAS, B.N., 1969. The role, management and economic function of a national park with special reference to Kaziranga. *Indian Forester*, 95: 785-791, 1 map.
- DAS, L.C. & A.K. Mukherjee, 1974. List of some important faunal representatives of the Kaziranga national park (fauna & flora). *Indian museum bulletin*, 9(1): 76-93, 8 figs.
- DASH, vicomtesse de (Saint Mars, Gabrielle Anne Cisterne de Courtiras), 1861. Les galanteries de la cour de Louis XV: Le parc au cerfs: ii, 283. Paris, Michel Levy frères.
- DAUKES, C., 1934. Capturing a Nepal rhino. *Field*, 163: 802.
- DAVID, Harry, 1913. Ancora del rinoceronte marmoreo del Museo nazionale di Napoli. *Bollettino d'Arte*, Roma, 7: 342-344.

- DAWES, Glyn & John PAYNE, 1981. Faunal survey in Sabah. *World Wildlife Fund Yearbook*, 1980-81: 117-121.
- DAVIES, J., 1953. The anatomy of a twenty-two millimetre embryo of the African rhinoceros (*Rhinoceros bicornis*). *Proceedings of the Zoological society of London*, 122: 593-613, pls. 1-6, figs. 1-6.
- DAVIS, Delbert Dwight, 1958. Mammals of the Kelabit plateau, Northern Sarawak. *Fieldiana, zoology*, 39(15): 119-147, fig. 21, 1 map.
- , 1962. Mammals of the lowland rain-forest of North Borneo. *Bulletin of the Singapore national museum*, 31: 1-129, pls. 1-23, figs. 1-20.
- DAVIS, John Gordon, 1972. Operation rhino: 224. London, Michael Joseph.
- DAWSON, Warren R. (ed.), 1958. The Banks letters: a calendar of the manuscript correspondence of Sir Joseph Banks, preserved in the British museum, the British museum (natural history) and other collections in Great Britain: xlii, 965. London, Trustees of the British Museum.
- DEANE, N.N., 1960. Meeting of rhinos of two species. *Lammergeyer*, 1(1): 40-41.
- , 1962a. Black rhinoceros, *Diceros bicornis*. *Lammergeyer*, 2(2): 48.
- , 1962b. Rhino scratch. *Natal wildlife*, 3(1): 9.
- DEBRAINE, Yves, 1967. Avec les rhinocéros Indiens. *Vie des bêtes*, 108: 12-13, 6 figs.
- DECKEN, Carl Claus von der, 1869. Reisen in Ost-Afrika in den Jahren 1859 bis 1861. Bearbeitet von Otto Kersten, I: xx, 335, Leipzig und Heidelberg, C.F. Winter.
- DEGERBØL, Magnus, 1949. Mellem sorte dinkaer og hvide Naesehorn: 195. København, Fremad.
- DEIGNAN, H.G., 1942. (Note in:) The fate of a fauna. *Fauna*, Philadelphia, 4 (1): 12-15, 24, 2 figs.
- DEKEYSER, P.L., 1955. Les mammifères de l'Afrique noire française: 426. Dakar, IFAN.
- DELAOUR, Jean, 1940. Liste provisoire des mammifères de l'Indochine française (suite). *Mammalia*, 4(2): 46-58.
- , 1966. The living air: the memoirs of an ornithologist: 173. London, Country Life.
- DELEGORGUE, Adulphé, 1847. Voyage dans l'Afrique australe notamment dans les territoire de Natal, dans celui des Cafres Amazoulous et Makatisses et jusqu'au tropique du Capricorne exécuté durant les années 1838, 1839, 1840, 1841, 1842, 1843 & 1844: xvi, 580. Paris, A. René & Co.
- DELITZSCH, Friedrich, 1874. Assyrische Studien, I: Assyrische Thiernamen mit vielen Excursus und einem assyrischen und akkadischen Glossar: vii, 190. Leipzig, J.C. Hinrich.
- DELME-RADCLIFFE, Charles 1904. Notes on the game in the Nile province and in south-western Uganda. *Journal of the Society for the preservation of the wild fauna of the Empire*, 1: 58-64.
- , 1905. Rough notes on the natural history of the country west of Lake Victoria Nyanza. *Proceedings of the Zoological society of London*, 1905(2): 184-191.
- DELSMAN, Hendricus Christoffel, 1951. Dierenleven in Indonesië: 348. 's Gravenhage-Bandung, W. van Hoeve.
- DEMMECK, Hermann (pseud. of Hermann Hartwig), 1965. Animals and men: x, 390. London, Thomas Nelson and sons. (original, Mit Tieren leben, 1961.)
- DEMMECK, Heini, 1966. Beobachtungen über das Verhalten verschiedener wildlebender Tiere beim Fang in freier Wildbahn in Afrika. *Zoologische Garten*, (N.F.) 32(5): 210-215.
- DENHAM, Dixon & Hugh CLAPPERTON, 1826. Narrative of travels and discoveries in northern and central Africa, in the years 1822, 1823, and 1824 extending across the great desert to the tenth degree of northern latitude, and from Kouka in Bornou, to Sackatoo, the capital of the Fellatah empire: xviii, 335, iv, 272. London, John Murray.
- DENNEY, Richard N., 1969. Black rhinoceros immobilization utilizing a new tranquillizing agent. *East African wildlife journal*, 7: 159-165.
- , 1970. Body temperatures of some wild East African ungulates. *East African wildlife journal*, 8: 212-216, figs. 1-4.
- DENYER, L.C., 1962. Black rhinoceros *Diceros bicornis* (notes on feeding nos. 27 and 29). *Lammergeyer*, 2(1): 66 and 67.
- DEPAUL, K.S., 1979. Gunung Leuser reserves - management. *World Wildlife Yearbook*, 1978-79: 75-76.

- DERANIYAGALA, Paulus Edward Pieris, 1946. Some mammals of the extinct Ratnapura fauna of Ceylon (part II). *Spolia zeylanica*, 24(3): 161-171, pls. 21-23.
- , 1953. The extinct and living subfamilies of African Rhinocerotidae. *Spolia zeylanica*, 27(1): 13-14, pls. 1-3.
- DERHAM, William, 1718. Philosophical letters between the late learned Mr. Ray and several of his ingenious correspondents, natives and foreigners. To which are added those of Francis Willughby, Esq; the whole consisting of many curious discoveries and improvements in the history of quadrupeds, birds, fishes, insects, plants, fossiles, fountains &c.: viii, 376, index. London, William and John Innys.
- DESMAREST, Anselme Gaëtan, 1822. Mammalogie ou description des espèces de mammifères, seconde partie: contenant les ordres des rongeurs, des edentés, des pachydermes, des ruminants et des cétacés: viii, 277-555. Paris, veuve Agasse.
- DESMAREST, E., 1819. Rhinocéros. Pp. 237-246 in: Nouveau dictionnaire d'histoire naturelle, appliquée aux arts, à l'agriculture, à l'économie rurale et domestique, à la médecine etc., nouvelle édition, vol. 29: iv, 576. Paris, Deterville.
- DEUXIÈME, Antonius, 1659. Dissertationes de unicornu et lapide bezoar: xii, 107. Groningae, Johannis Collen.
- DEUVE, J. & M. DEUVE, 1962. Note sur les Rhinocerotidae du Laos. *Bulletin de la Société royale des sciences naturelles du Laos*, 3: 99-105, 2 figs.
- & —, 1964. Contribution à la connaissance des mammifères du Laos (troisième partie). *Bulletin de la Société royale des sciences naturelles du Laos*, 10: 25-35.
- DEVÉRIA, Gabriel, 1880. Histoire des relations de la Chine avec l'Annam-Vietnam du xvie au XIXe siècle d'après des documents chinois traduits pour la première fois et annotés x, 102. Paris, Ernest Leroux.
- DEVIC, L.-Marcel, 1975. Le pays des Zendjs ou la côte orientale d'Afrique au Moyen-âge: géographie, mœurs, productions, animaux légendaires d'après les écrivains Arabes: 280. Amsterdam, Oriental Press. (Reprint of édition Paris, 1833.)
- DICKINSON, Francis Arthur, 1907. Big game shooting on the equator: 285. London/New York, John Lane.
- , 1910. Lake Victoria to Khartoum with rifle & camera: xix, 334. London/New York, John Lane.
- DICKINSON, T. Vincent, 1929. The armorial bearings of the Worshipful Society of Apothecaries. *Proceedings of the Royal Society of medicine (sect. History of medicine)*, 23: 11-14, 1 fig.
- DIO CASSIUS (3rd century). Roman history, 51.22(5).
- DIODORUS of Sicily (ca. 40 B.C.). History, III. 35 - 2, 3.
- DISSELHORST, Rudolf, 1904. Ausführapparat und Anhangdrüsen der männlichen Geschlechtsorgane. (Lehrbuch der vergleichende mikroskopischen Anatomie der Wirbeltiere, herausgegeben von A. Oepel, vol. 4): x, 432. Jena, Gustav Fischer.
- DITTRICH, Lothar, 1965. Geburt eines Spitzmaulnashorns im Zoo Hannover. *Freunde des Kölner Zoo*, 8(3): 90-92, 3 figs.
- , 1967. Breeding the black rhinoceros, *Diceros bicornis*, at Hanover zoo. *International Zoo Yearbook*, 7: 161-162, fig. 44.
- , 1971. Beobachtungen zur Jugendentwicklung eines Breitmaulnashorns (*Ceratotherium s. simum*) im Zoo Hannover. *Zeitschrift des Kölner Zoo*, 14(2): 73-81, figs. 1-9.
- , 1972. Birth and growth of a male white rhinoceros, *Ceratotherium simum simum*, at Hanover zoo. *International Zoo Yearbook*, 12: 122-125.
- , 1974. Beobachtungen zum Milchzahnbruch beim Spitzmaul- (*Diceros bicornis*) und Breitmaulnashorn (*Ceratotherium simum*). *Säugetierkundliche Mitteilungen*, 22(4): 289-295.
- DITTRICH, Sigrid, 1975. Wieviel Hörner hat ein Nashorn? *Zoofreund*, Hannover, 14: 10-11, 4 figs.
- , 1977. Künstler in unserem Zoo. *Zoofreund*, Hannover, 22: 8-9, 3 figs.
- DIXON, Alexandra & Mark MACNAMARA, 1981. Observations on the social interactions and development of sexual behaviour in three sub-adult, one-horned Indian rhinoceros (*Rhinoceros unicornis*) maintained in captivity. *Zoologische Garten*, (N.F.) 51(1): 65-70.
- DIXON, J.E.W., 1964. Preliminary notes on the mammal fauna of the Mkuzi game Reserve.

- Lammergeyer, 3(1): 40-58.
- , 1966. Notes on the mammals of the Ndumu game reserve. *Lammergeyer*, 6: 24-40.
- DOCTERS VAN LEEUWEN, Willem Marius, 1933. Biology of plants and animals occurring in the higher parts of mount Pangrango-Gedeh in West Java. *Verhandelingen der koninklijke Akademie van wetenschappen, Amsterdam, afd. Natuurkunde*, (2e sectie) 31: i-v, 1-278, pls. 1-30, figs. 1-67.
- DODGSON, Campbell, 1903. Catalogue of early German and Flemish woodcuts preserved in the department of prints and drawings in the British Museum, I: xii, 568. London, British Museum.
- , 1938. The story of Dürer's gaudy. Pp. 44-56, pls. 1-3 in: Alfred Fowler (ed.), *The romance of fine prints*: 194. Kansas City, Print Society.
- DORAN, James M. Jr., 1971. Southern white rhinoceros. *Zoonooz*, San Diego, 44(5): 12-19, 26 figs.
- , 1972. Survival Southern and Northern white rhinos. *Zoonooz*, San Diego, 45(12): 5-6, 3 figs.
- & Michael MORAN, 1969. Historical list of mammalia exhibited in the San Diego zoological garden. *Zoologische Garten*, (N.F.) 37(1/3): 48-63.
- DOLINAR, Z.J., Kurt S. LUDWIG & Edith MÜLLER, 1965. Ein weiterer Beitrag zur Kenntnis der Placenten der Ordnung Perissodactyla: zwei Geburtsplacenten des indischen Panzernashorns (*Rhinoceros unicornis* L.). *Acta anatomica*, 61: 331-354, figs. 1-23.
- DOLLMAN, John Guy, 1921. Catalogue of the Selous collection of big game in the British Museum (Natural History): vii, 112. London, Trustees BMNH.
- , 1928. A young Sumatran rhinoceros. *Natural history magazine*, 1: 255-258, 1 fig.
- , 1932. The Javan rhinoceros. *Natural history magazine*, 3: 273-277, figs. 1-3.
- , 1937. Mammals which have recently become extinct and those on the verge of extinction. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 30: 67-74.
- DOLLO, Louis, 1885. Rhinocéros vivants et fossiles. *Revue des questions scientifiques*, 17: 293-299, 3 figs.
- DOORN, Cornelis van, 1967. De witte of breedsnuit neushoorn en de 'pi'. *Blijdorp-Geduiden*, Rotterdam, 15(10): 6-7, 3 figs.
- DORAN, John [1876]. 'Mann' and manners at the court of Florence: founded on the letters of Horace Mann to Horace Walpole during the years from 1740 to 1786. Boston, F.A. Nicolls.
- DORAN, Jan Baptiste Jozef van, 1851. Reis naar Nederlands Oost-Indië of land- en zeetogten gedurende de twee eerste jaren mijns verblijf op Java, II: i, 404. 's Gravenhage, J. & H. van Langenhuyzen.
- DORSMAN, L., 1906. Wat er in Londen voor een natuurliefhebber te zien valt (vervolg), II: De "Zoo". *Levende natuur*, 11: 73-75.
- DORST, Jean & Pierre DANDELLOT, 1970. A field guide to the larger mammals of Africa: 287. London, Collins.
- DOULIEZ, H., 1979. Planckendaël en dierentuinen ruilen neushoorns. *Zoo*, Antwerpen, 44(4): 140-142, 5 figs.
- DOVE, William Franklin, 1935. The physiology of horn growth: a study of the morphogenesis, the interaction of tissues, and the evolutionary processes of a mendelian recessive character by means of transplantation of tissues. *Journal of experimental zoology*, 69(3): 347-405, pls. 1-5.
- DOVER, Cedric, 1932. The duration of life of some Indian mammals. *Indian Forester*, 58: 81-90.
- DOWSETT, R.J., 1969. Luangwa valley mammal notes. *Puku*, 5: 220-222.
- DRACOPOLI, Ignatius Nicolas, 1914. Through Jubaland to the Lorian swamp: an adventurous journey of exploration & sport in the unknown African forests & deserts of Jubaland to the unexplored Lorian swamp, 2nd ed: 318. London, Seeley, Service & Co.
- DRAKE-BROCKMAN, Ralph Evelyn, 1909. The fauna of Abyssinia. *Journal of the Society for the preservation of the wild fauna of the Empire*, 5: 110-113.
- , 1910. The mammals of Somaliland: xvii, 201. London, Hurst and Blackett.
- DRUMMOND, William Henry, 1875. The large game and natural history of South and South-

- East Africa: xxi, 428. Edinburgh, Edmonston and Douglas.
- , 1876. On the African rhinoceros. *Proceedings of the Zoological society of London*, 1876: 109-114.
- DRUSEUS, Johannes, 1636. Nova versio et scholia in lobum, conscripta auspiciis & sumptibus Ill. Praepotentumque ordd. Generalium provinciarum foederatum, opus posthumum: xii, 961, iv. Amstelodami, Ioh. Ianssonii.
- DRYANDER, Jonas, 1796. Catalogus bibliothecae historico-naturalis Josephi Banks, II: Zoologi: xx, 578, index. Londini, Gul. Bulmer et Soc.
- DUBOIS, Eugene, 1908. Das geologische Alter der Kendeng- oder Trinil-Fauna. *Tijdschrift van het Koninklijk Nederlands aardrijkskundig genootschap*, (2) 25: 1235-1270, pl. 39.
- DUBOIS, J.L., 1852. De dierenwereld in hare graadheid en verrigtingen: vi, 7-664. Gouda, G.B. van Goor.
- DUGMORE, Arthur Radclyffe, 1910. Camera adventures in the African wilds: being an account of a four months' expedition in British East Africa, for the purpose of securing photographs from life of the game: xviii, 230. London, William Heinemann.
- , 1925. The wonderland of big game: being an account of two trips through Tanganyika and Kenya: 288. London, Arrowsmith.
- DUHALDE, Jean Baptiste, 1736. Description géographique, historique, chronologique, politique, et physique de l'empire de la Chine et de la Tartarie chinoise . . . , I: lxxx, 488 + unpag. La Haye, Henri Scheurleer.
- DUKE, J., [1739]. A natural history of four-footed animals: Of the rhinoceros: 12, 1 pl. London.
- DUNCAN, Peter Martin (ed.), 1892. Cassell's natural history, II: xii, 360. London, Paris & Melbourne, Cassell & Co.
- DURANT, John & Alice DURANT, 1957. Pictorial history of the American circus: viii, 328. New York, A.S. Barnes & Co.
- DUSSEAU, J.L., 1865. Musée Vrolik: catalogue de la collection d'anatomie humaine, comparée et pathologique de MM. Ger. et W. Vrolik: xvi, 464. Amsterdam, W.J. de Roever Kröber.
- DUTT-MAZUMDAR, S., 1954. The vanishing fauna of North Bengal. *Journal of the Bengal natural history society*, 26(4): 156-161, 1 map.
- DUVEN, A., 1961. Rhino and elephant in Amboseli national reserve. *African wildlife*, 15(1): 60-61, figs. 1-4.
- DUVERNOY, Georges Louis, 1854. Nouvelles études sur les rhinocéros fossiles. *Archives du Muséum national d'histoire naturelle*, 7: 1-144, pls. 1-8.
- DUYENDAK, Jan Julius Lodewijk, 1949. China's discovery of Africa (lectures given at the University of London on January 22 and 23, 1947): 35. London, Arthur Probstham.
- EARLAND, C., P.R. BLAKEY & J.G.P. STELL, 1962. Molecular orientation of some keratins. *Nature*, 196: 1287-1291, figs. 1-4.
- EASTMURE, Gerald B., 1949. Indian one-horned rhinoceros, a beast that has suffered severely at the hands of the hunter. *Field*, 194: 891-892, 4 figs.
- EBEDES, H., 1966. M99 and M285: gemsbok and rhino immobilisation. *M-series, veterinary applications report*, 48: 1-3. Reckitt & Sons, Hull.
- , 1967. Gemsbok and black rhinoceros immobilization with etorphine. *M-series, veterinary applications report*, 57: 1-4. Reckitt & Sons, Hull.
- EBLE, (?), 1950. Propos de la vitesse du rhinocéros (*Diceros bicornis* L.). *Mammalia*, 14(4): 178-179.
- EDWARDS, George, 1758. Gleanings of natural history, exhibiting figures of quadrupeds, birds, insects, plants & c., most of which have not, till now, been either figured or described, with descriptions of seventy different subjects, designed, engraved and coloured after nature, on fifty copper-plate prints, vol. 5: vi, 108. London, Royal college of physicians.
- EKHOUT, R.A., 1900. De wijnoopbaai op Java en 25 jaren opportunisme voor Nederlandsch-Indië. *Tijdschrift voor nijverheid en landbouw in Nederlandsch Indië*, 60: 343-555.

- EHLERS, Ernst, 1917. Bemerkungen zu den Tierabbildungen im Gebethuche des Kaisers Maximilian. *Jahrbuch der königlich preussischen Kunstsammlungen*, 38: 151-176, figs. 1-13.
- EFFERT, Carl, 1957. Nachrichten aus Hannover. *Zoologische Garten*, (N.F.) 23(1/3): 256-259, figs. 1-5.
- EINHORN, Jürgen Werinhard, 1976. *Spiritalis unicornis: das Einhorn als Bedeutungsträger in Literatur und Kunst des Mittelalters*: 527. München, Wilhelm Fink (Münstersche Mittelalter-Schriften, vol. 13).
- ELIOT, Charles, 1966. *The East Africa protectorate*, 3rd impression: xii, 334. London, Frank Cass & Co. (1st ed. 1905).
- ELISOFON, Elliot, 1968. Udjung Kulon. *Life*, 44(2): 56-67, 69, 17 figs.
- ELLERMAN, John Reeves, 1954. Die taksonomie van die soogdiere van die Unie van Suid-Afrika. *Annale van die Universiteit van Stellenbosch*, (A) 30(1): 1-125.
- & Terence Charles S. MORRISON-SCOTT, 1951. Checklist of palaearctic and Indian mammals 1758 to 1946: iv, 810. London, Trustees British Museum.
- , & R.W. HAYMAN, 1953. Southern African mammals 1758 to 1951: a reclassification: iii, 363. London, Trustees BMNH.
- ELLIOT, Daniel Giraud, 1907. A catalogue of the collection of mammals in the Field Columbian museum. *Publication of the Field Columbian museum, zoological series*, 8: 1-694.
- ELLIOT, George Francis Scott, 1895. Recent expedition to British East Africa. *Proceedings of the Zoological society of London*, 1895: 339-343.
- , 1896. A naturalist in Mid-Africa: being an account of a journey to the mountains of the moon and Tanganyika: xvi, 413. London, A.D. Innes & Co.
- ELLISON, Bernard Cuthbert, 1925. H.R.H. The prince of Wales's sport in India: xxx, 285. London, William Heinemann.
- ELOFF, F.C., 1977. Kaokoland/Damaraland - ecological baselines for conservation planning (South West Africa). *World Wildlife Yearbook*, 1976-77: 87-89.
- ELTON, J. Frederic, 1879. Travels and researches among the lakes and mountains of eastern & central Africa, edited and completed by H.B. Cotterill: xxii, 417. London, John Murray.
- EMERY, Walter Bryan, 1939. Excavations at Saqqara 1937-1938: Hor-Aha. Cairo, Government press.
- EMMERIG, Hubert, 1978. Das Rhinoceros in Europa 1741-1758 und seine Medaillen. *Money Trend*, 10(5): 20-25, 50, 52, 1 pl. 1 map.
- ENDE, Louis von, 1889. Die Baduwis auf Java. *Mittheilungen der anthropologischen Gesellschaft in Wien*, 19: 7-13.
- ENDERT, Frederik Hendrik, 1927. Reisverslag. Pp. 135-199, figs. 38-66 in: Midden-Oost-Borneo expeditie 1925, uitgave van het Indisch comite voor wetenschappelijke onderzoekingen: 1, v, 423. Weltevreden, G. Kolff & Co.
- ENGLISH, D.R., 1977. Domesticated rhinoceros. *Illustrated London News*, 265(6951): 32, 1 fig.
- ENRIQUEZ, Colin Metcalfe Dallas, 1927. Malaya: an account of its people, flora and fauna: xvi, 303. London, Hurst & Blackett.
- ENSLEY, P.K. & M. BUSH, 1976. Rectal mucosal prolapse in an Indian rhinoceros (*Rhinoceros unicornis*). *Journal of zoo animal medicine*, 7(2): 22-25, figs. 1-6.
- EPP, F. 1852. Schilderungen aus Holländisch-Ostindien: I, vii, 490. Heidelberg, C.F. Winter.
- ERSTEIN, Leopold, 1897. Schilderungen aus dem zoologischen Garten zu Frankfurt a.M. *Zoologische Garten*, (A.F.) 38(6): 174-179.
- ERFFA, Hans Martin von, 1965. Das Programm der Westportale des Pisaner Domes. *Mitteilungen des kunsthistorischen Institutes in Florenz*, 12: 55-106, figs. 1-37.
- ERIKSEN, Erik, 1977. Birth of two white rhinoceroses (*Ceratotherium simum simum*) at the Copenhagen zoo. *Zoologische Garten*, (N.F.) 47(1): 33-44, figs. 1-8.
- ERKES, Eduard, 1916. Das Weltbild des Huai-Nan-Tze: ein Beitrag zur Ethnographie und Kulturgeschichte des alten Chinas. *Orientalische Zeitschrift*, 5: 27-80, figs. 1-13.
- ERRINGTON DE LA CROIX, John, 1882. Etude sur les Sakaies de Perak (Presqu'île de Malacca). *Revue d'ethnographie*, 1: 317-341, figs. 135-136.

- ESCHERICH, Georg, 1921. Im Lande des Negus, 2. vermehrte Auflage: 187. Berlin, Georg Stilke.
- ETTINGHAUSEN, Richard, 1950. Studies in Muslim iconography, I: The unicorn. *Freer gallery of art, Occasional papers*, 1(3): i-xii, 1-209, pls. 1-48, figs. 1-5. Washington, Smithsonian Institution.
- EUCHERIUS, Lugdunensis episcopi (5th century). Instructionem ad Salonium libri duo. Liber 2, caput 12: de bestiis. In: J.P. Migne, *Patrologiae cursus completus Latinae*, vol. 50: 773-826.
- EUSTATHIUS (ca. 440). Commentarius in Hexaemeron Leone Allatio interprete. In: J.P. Migne, *Patrologiae cursus completus Graeca*, vol. 18.
- EVANS, G.E., 1904. The Asiatic two-horned rhinoceros (*Rhinoceros sumatrensis*). *Journal of the Bombay natural history society*, 16(1): 160-161.
- , 1905. Notes on rhinoceroses in Burma, R. sondaicus and sumatrensis. *Journal of the Bombay natural history society*, 16(4): 555-561.
- EVANS, G.P., 1912. Big-game shooting in Upper Burma, new impression: xiii, 240. New York, Bombay, Calcutta, Longmans, Green & Co.
- EVANS, Ivor Hugh Norman, 1922. Among the primitive peoples in Borneo: a description of the lives, habits & customs of the piratical head-hunters of North Borneo, with an account of interesting objects of prehistoric antiquity discovered in the island: 318. London, Seeley, Service & Co.
- EVANS, P.G.H., 1979. Habitat preferences of ungulates in closed savanna of central Africa. *Mammal review*, 9(1): 19-32, figs. 1-8, map 1.
- EVELYN, John, 1955. The diary, now first printed in full from the manuscripts belonging to Mr. John Evelyn and edited by E.S. de Beer, IV: Kalendarium 1673-1689: ix, 654. Oxford, Clarendon press.
- EVERETT, Alfred Hart, 1893. A nominal list of the mammals inhabiting the Bornean group of islands. *Proceedings of the Zoological society of London*, 1893: 492-496.
- EVERS-MANN, Eduard, 1861. Erinnerungen aus einer Reise in's Ausland, 1857 bis 1858. *Zoologische Garten*, (A.F.) 2: 57-62.
- EZZAT, Mohammed Abd. Elmoneim, 1945. Helminth parasites of some ungulates from the Giza zoological gardens, Egypt. With an appendix on some nematodes from the African rhinoceros. *Bulletin Technical and scientific service (veterinary section)*, Ministry of agriculture, Egypt, 241: i-vi, 1-104, pls. 1-55.
- FAIRALL, N., 1968. The reproductive seasons of some animals in the Kruger national park. *Zoologica Africana*, 3(2): 189-210, figs. 1-28.
- FAJARDO, Antonio, 1953. Gorongosa national park. *African wildlife*, 7(4): 330-334.
- FALCONER, Hugh, 1868. Palaeontological memoirs and notes... with a biographical sketch of the author, edited by Charles Murchison, I: lvi, 590; II: xiii, 675. London, Robert Hardwicke.
- FASNACHT, Eva, 1974. Experimentelle Untersuchungen über das visuelle Lernvermögen und die Schärfe der Spitzmaulnashörner (*Diceros bicornis* L.). *Zoologische Garten* (N.F.) 44(6): 357-369, figs. 1-5.
- , 1977. Erstaunliche Gedächtnisleistung bei einem Spitzmaulnashorn (*Diceros bicornis* L.). *Zoologische Garten*, (N.F.) 47(5): 361-364, figs. 1-3.
- FAUJAS DE SAINT-FOND, Barthélemy, 1809. Essai de géologie, ou mémoires pour servir l'histoire naturelle du globe, I: Animaux et végétaux fossiles: i, 493. Paris, Gabriel Dufour & Co.
- FAUNTHORPE, J.C., 1924a. Jungle life in India, Burma, and Nepal: some notes on the Faunthorpe-Vernay expedition of 1923. *Natural History*, 24: 174-198, 20 figs, 1 map.
- , 1924b. The disappearance of wild life in India. *Natural History*, 24: 204-207, 1 fig.
- FAUST, Ingrid, 1976. Jungfer Clara im Ballhof. *Zoofreund*, Hannover, 18: 2-3, 4 figs.
- FAUST, Richard, 1958. Die Geburt eines Spitzmaulnashornes (*Diceros bicornis* L.) in Frankfurt. *Zoologische Garten*, (N.F.) 22(3): 208-214, figs. 1-6.
- , 1964a. Nachrichten aus Frankfurt an Main, Jahresbericht 1957. *Zoologische Garten*, (N.F.) 29(1): 27-41, figs. 1-19.

- , 1964b. Frankfurt am Main – Jahresbericht 1958. *Zoologische Garten*, (N.F.) 29(5): 273–282, figs. 1–8.
- F.C., 1940. Field notes on Nigerian mammals. *Nigerian Field*, 9(1): 10–16, 3 figs.
- FEELY, J.M., 1962. Square-lipped rhinoceros *Ceratotherium simum*. *Lammergeyer*, 2(2): 48–49.
- FÉLIX, A., 1953. Notes sur la faune de Birao. *Mammalia*, 17: 55–66, 1 map.
- FERGUSON, F.S., 1949. The Carr Hartley expedition. *Sudan wild life and sport*, 1(2): 27–31, 1 fig.
- FERRO, Giovanni, 1623. Teatro d'impresie, parte seconda: 728. Venetia, Giacomo Sarzina.
- FETHERSTONHAUGH, A.H., 1951a. Rhinoceroses. *Malayan nature journal*, 5(4): 191–193.
- , 1951b. King George V national park, Malaya: nature notes for 1950. *Oryx*, 1(4): 228–232.
- FIELD, P.A.G., 1958. The rogue rhino of Loyo. *Uganda wild life and sport*, 1(4): 26–28, 2 figs.
- FINNES, R.N.T.-W., 1966. Report of the Society's pathologist for the year 1964. *Journal of zoology*, 148: 363–380.
- FIGUER, Louis, 1869. Les mammifères: i, 596. Paris, L. Hachette et cie.
- FINDLAY, Frederick Roderick Noble, 1903. Big game shooting and travel in South-East Africa: an account of shooting trips in the Cheringoma and Gorongosa divisions of Portuguese South-East Africa and in Zululand: xii, 313. London, T. Fisher Unwin.
- FINLAYSON, Hedley Hebert, 1950. Note on the cranial and dental characters of a specimen of *Rhinoceros sondaicus* Desm. *Proceedings of the Zoological society of London*, 120: 151–154.
- FIOCCO, Giuseppe, 1929. Die venezianische Malerei des siebzehnten und des achtzehnten Jahrhunderts: xi, 125. Firenze, Pantheon and München, Wolff.
- FISCHER, Adolf, 1914. Menschen und Tiere in Deutsch-Südwest: vi, 294. Stuttgart & Berlin, Deutsche Verlags-Anstalt.
- FISCHER, Gotthelf, 1814. Zoognosia tabulis synopticis illustrata, volumen III: Quadrupedum reliquorum, cetorum et monotrymatum descriptionem continens: xxiv, 734. Mosquae, Nicolai Sergeidis Vsevolozsky.
- FISCHER, Johann Baptist, 1829. Synopsis mammalium: xlii, 527. Stuttgartiae, J.G. Cotta.
- FISCHER, L.S., 1910. Tochten naar boven-Boeloengan en de Apo-Kajan (Zuider- en ooster-afdeeling van Bornco). *Tijdschrift van het koninklijk Nederlands aardrijkskundig genootschap*, (2) 27: 263–306, map 7.
- FITTER, Richard, 1968. Vanishing wild animals of the world: 144. London, Midland bank & Kay and Ward.
- , 1974a. 25 years on: a look at endangered species. *Oryx*, 12(3): 341–346, 2 figs.
- , 1974b. Most endangered mammals: an action programme. *Oryx*, 12(4): 436–449, 5 figs, 1 map.
- FITZINGER, Leopold Joseph Franz Johann, 1836. Tournaire's Menagerie. *Wiener Zeitschrift für Kunst, Literatur, Theater und Mode*, 1836.
- , 1860. Wissenschaftlich-populäre Naturgeschichte der Säugethiere in ihren sämtlichen Hauptformen: nebst einer Einleitung in die Naturgeschichte überhaupt und in die Lehre von den Thiere insbesondere, III: xi, 480. Wien, k.k. Hof- und Staatsdruckerei.
- FITZSIMMONS, W.M., 1962. Parabronema roundi n. sp. (Spirulidae: Nematoda) from *Rhinoceros bicornis* in Kenya. *Journal of helminthology*, 36: 39–44, figs. 1–5.
- FITZSIMONS, Frederick William, 1920. The natural history of South Africa, mammals, III: xiii, 278. London, Longmans, Green and co.
- FLACOURT, E.de, 1661. Histoire de la grande isle Madagascar, avec une relation de ce qui s'est passé es années 1655, 1656 & 1657. non encor veuë par la première impression: xxii, 471. Paris, Pierre l'Amy.
- FLEMING, Peter, 1956. My aunt's rhinoceros and other reflections: 189. London, Rupert Hart-Davis.
- FLEMING, Robert L. jr., 1969. Nepal fauna and flora: comments on present status. *IUCN Bulletin*, 2(13): 108.
- FLINT, Richard W., 1970. Rufus Welch: America's pioneer circus showman. *Bandwagon*, Sept/Oct. 1970: 4–11, 6 figs.

- FLORIO, P.L., 1973. The 'Jardim zoologico' of Lisbon-Portugal. *International zoo news*, 20(6): 209-211.
- , 1976. Naples, Italy. *International zoo news*, 23(2): 43.
- FLOWER, Stanley Smyth, 1900. On the mammalia of Siam and the Malay peninsula. *Proceedings of the Zoological society of London*, 1900: 306-379, 1 fig.
- , 1906. Report on mission to Europe, 1905: 43. Cairo, National printing dept. (Government of Egypt, public works department: zoological garden, Giza, near Cairo, special report no. 1).
- , 1908. Notes on zoological collections visited in Europe, 1907: 71. Cairo, National printing dept. (Government of Egypt, public works department: zoological gardens, Giza, near Cairo, special report no. 2).
- , 1914. Report on a zoological mission to India in 1913: viii, 100. Cairo, Government press (Ministry of public works, Egypt: zoological service, publication no. 26).
- , 1931. Contributions to our knowledge of the duration of life in vertebrate animals. V: Mammals. *Proceedings of the Zoological society of London*, 1931(1): 145-234.
- FLOWER, William Henry, 1876. On some cranial and dental characters of the existing species of rhinoceroses. *Proceedings of the Zoological society of London*, 1876: 443-457, figs. 1-4. (Abstract: Sur quelques caractères des espèces actuelles de rhinocéros, tirés du crâne et des dents de ces animaux. *Journal de zoologie*, Paris, 5 (1876): 433-435.)
- , 1878. On the skull of a Rhinoceros (*R. lasiotis*, Sci.) from India. *Proceedings of the Zoological society of London*, 1878: 634-636.
- , 1880. Exhibition of, and remarks upon, the skull of a two-horned rhinoceros from Borneo. *Proceedings of the Zoological society of London*, 1880: 69-70.
- , 1889. Exhibition of, and remarks upon, the skin of the face of a male African rhinoceros with a third horn. *Proceedings of the Zoological society of London*, 1889: 448-449, 1 fig.
- , 1891. The horse: a study in natural history: xvi, 196. London, Kegan Paul, Trench, Trübner & Co.
- & John George GARSON, 1884. Catalogue of the specimens illustrating the osteology and dentition of vertebrate animals, recent and extinct, contained in the Museum of the Royal College of Surgeons of England, II: Class Mammalia, other than man: xliii, 779. London, Royal College of Surgeons.
- & Richard LYDEKKER, 1891. An introduction to the study of mammals living and extinct: xvi, 763. London, Adam and Charles Black.
- FLYNN, Rodney W., 1978. The Sumatran rhinoceros in the Endau-Rompin national park of peninsular Malaysia. *Malayan naturalist*, 4(2): 5-12, figs. 1-9.
- , 1979. Sumatran rhino - Endau Rompin. *World Wildlife Yearbook*, 1978-79: 103-104.
- , 1980. Endau Rompin - Sumatran rhinoceros. *World Wildlife Fund Yearbook*, 1979-80: 87-88.
- , 1981a. Operation Rhino Sabah, phase I. World Wildlife Fund Malaysia, project MAL 39/80, final report. Cyclostyled, pp. i-ii, 1-14, figs. 1-2.
- , 1981b. Distribution, ecology & conservation of the Sumatran rhinoceros in Malaysia: progress report, July 1981. Typed, pp. i-ii, 1-33.
- , 1982. Where one death counts. *Oryx*, 16(3): 239.
- FOA, Edouard, 1908. Résultats scientifiques des voyages en Afrique: xli, 742. Paris, imprimerie nationale.
- FOENANDER, E.C., 1952. Big game of Malaya: their types, distribution and habits: xv, 208. London, Batchworth press.
- FONCK, Heinrich, [1924]. Unter afrikanischem Grosswild: 137. Berlin, Ullstein.
- FORBES, A., 1947. Rhino - black or white? *Field*, 190: 188.
- , 1949. Game warden's notes. *Sudan wildlife and sport*, 1(1): 14-15.
- , 1950. The Dinder park and shooting parties in early years. *Sudan wildlife and sport*, 1(3): 25-28.
- FORBES, Henry Ogg, 1885. A naturalist's wanderings in the Eastern archipelago, a narrative of travel and exploration from 1878 to 1883: xx, 536. London, Sampson Low, Marston, Searle & Rivington.
- FORBES, Vernon S., 1965. Pioneer travellers of South Africa: a geographical commentary

- upon routes, records, observations and opinions of travellers at the Cape 1750-1800: vi, 177. Cape Town/Amsterdam: A.A. Balkema.
- , 1977. Some scientific matters in early writings on the Cape. Pp. 33-59, 5 pls. in: A.C. Brown (ed.), *A history of scientific endeavour in South Africa: a collection of essays published on the occasion of the centenary of the Royal Society of South Africa*: xii, 516. Cape Town, Royal Society of South Africa.
- & John ROURKE, 1980. Paterson's cape travels 1777 to 1779:202. Johannesburg, Brenthurst press.
- FORBES, William Alexander, 1881. On the male generative organs of the Sumatran rhinoceros (*Ceratotherium sumatrensis*). *Transactions of the Zoological society of London*, 11: 107-109, pl. 20.
- FOSTER, J.B., 1965. Mortality and ageing of black rhinoceros in East Tsavo park, Kenya. *East African wildlife journal*, 3: 118-119.
- , 1967. The square-lipped rhino [*Ceratotherium simum cottoni* (Lydekker)] in Uganda. *East African wildlife journal*, 5: 167-171, 1 fig.
- & M.J. COE, 1968. The biomass of game animals in Nairobi national park, 1960-66. *Journal of zoology*, 155: 413-425, pls. 1-2, figs. 1-4.
- FOSTER, W.E., 1960. The square-lipped rhinoceros. *Lammergeyer*, 1(1): 24-35, 2 figs. 1 map.
- FOUREAU, Fernand, 1905. Documents scientifiques de la mission saharienne Mission Fourneau-Lamy 'D' Alger au Congo par le Tchad', troisième fascicule: 551-1210, pls. 6-30. Paris, Masson & Cie.
- FRÄDRICH, Hans & Jutta FRÄDRICH, 1973. Zoo Führer Säugetiere: xv, 304. Stuttgart, Gustav Fischer.
- FRASSE, Jean, 1955. Coups de feu dans la jungle: chasses indochinoises: 219. Paris, L'atout d'or.
- FRAME, George W., 1971. The black rhinoceros. *Animals*, 13(15): 692-699, 6 figs.
- , 1980. Black rhinoceros (*Diceros bicornis* L.) sub-population on the Serengeti plains, Tanzania. *African journal of ecology*, 18(2/3): 155-166, figs. 1-2.
- & John GODDARD, 1970. Black rhinoceros vocalisations. *East African wildlife journal*, 8: 207.
- FRANCK, P.F., 1934. Rhinoceros sondaicus in West-Java. *Tropische Natuur*, 23: 76-79.
- , 1935. Waarnemingen over neushoorns en bantengs in het natuurmonument "Oedjong Koelon". *Nederlandsch Indische vereeniging tot natuurbescherming, Verslag 1933-1934*: 40-55, figs. 1-2.
- FRANZIUS, Wolfgangus, 1643. *Animalium historia sacra, in qua plerorumque animalium praecipuae proprietates in gratiam studiosorum theologiae & ministrorum verbi, ad usum eikouologikou, breviter accomodantur*, ed. 5: xxiv, 638, index. Amstelodami, Ioannem Ianssonium.
- FRASER, A.D., 1958. On the present status of ungulates in southern Rhodesia. *Mammalia*, 22: 469-475.
- FRASER, A.F., 1968. Reproductive behaviour in ungulates: x, 202. London, New York, Academic press.
- FRASER, O.L., 1875. Note on a partially ossified nasal septum in *Rhinoceros sondaicus*. *Journal of the Asiatic society of Bengal*, 44(1): 10-12, pl. 5.
- FRASER, William T., 1869. Letter regarding the existence of the rhinoceros in Borneo. *Proceedings of the Zoological society of London*, 1869: 529.
- FRECHKOP, Serge Alexandre, 1936. Mammifères & oiseaux protégés au Congo Belge: ii, 87, vii. Bruxelles, M. Hayez.
- , 1951. Sur un foetus de rhinocéros de la Sonde. Notes sur les mammifères. 38. *Bulletin du Musée royal d'histoire naturelle de Belgique*, 27(2): 1-7, pls. 1-4.
- FREEMAN, G.H. & J.M. KING, 1969. Relations amongst various linear measurements and weight for black rhinoceros in Kenya. *East African Wildlife journal*, 7: 67-72, figs. 1-2.
- FREIHEIT, Clayton F., 1971. Denver zoo news. *International zoo news*, 18(2): 51.
- , 1975. Rhinos for the future. *Zoo review*, Denver, Winter 1975: 4-5, 2 figs.
- FRESNEL, Fulgence, 1848. Sur l'existence d'une espèce unicolore de rhinocéros dans la partie tropicale de l'Afrique. *Comptes rendus hebdomadaires des séances de l'Académie des*

- sciences, Paris, 26(9): 281-284.
- FREUND, Ludwig, 1930. Beiträge zur Morphologie des Urogenitalsystems der Säugetiere. I. Der männliche Genitalapparat vom Rhinoceros. *Zeitschrift für Morphologie und Ökologie der Tiere*, 17: 416-424, figs. 1-5.
- FREYDENBERG, H., 1908. Le Tchad et le bassin du Chari: vii, 191. Paris, Fernand Schmidt (Thèse présentée à la Faculté des sciences de Paris).
- FREYTAG, Friedrich Gotthelf, 1747. *Rhinoceros e veterum scriptorum monumentis descriptus*: ii, 38. Lipsiae, Langenhemiana.
- GUANT, Madeleine, 1948. Sur la morphologie de l'articulation temporo-maxillaire chez les rhinocéros et le Rhinoceros (*Tichorhinus*) antiquitatis Blum, en particulier. *Bulletin du Musée royal d'histoire naturelle de Belgique*, 24(51): 1-7, figs. 1-2.
- , 1950. Recherches sur le ténacité des Rhinocerotidae. *Proceedings of the Zoological society of London*, 120: 337-347, figs. 1-10.
- HUIDEL, Ernst, 1872-1873. Tierleben und Tierpflege in Holland, England u. Belgien (Reisebemerkungen aus dem Jahre 1871). *Zoologische Garten*, (A.F.) 13(11): 327-337 (1872a); 13(12): 353-364 (1872b) and 14(6): 212-218 (1873).
- RIK, Christoff, 1692. Ost-Indianische Räysen und Krieger-Dienste . . . : x, 298, xiv. Ulm, Matthaeus Wagner.
- FRISCH, Just Leopold, 1775. Das Natur-System der vierfüßigen Thiere, in Tabellen, darinnen alle Ordnungen, Geschlechter und Arten, nicht nur mit bestimmenden Benennungen, sondern beygesetzten unterscheidenden Kennzeichen angezeigt werden, zum Nutzen der erwachsenen Schulfugend: vi, 34. Glogau, Christian Friedrich Günther.
- FROBENIUS, Leo, 1933. Kulturgeschichte Afrikas: prolegomena zu einer historischen Gestaltlehre: 652. Zürich, Phaidon.
- & Hugo OEHMANN, 1925. *Hädschra Maktuba: urzeitliche Felsbilder Kleinafrikas*: vii, 62. München, Kurt Wolff.
- FROMAGET, Jacques & Edmond SAURIN, 1936. Note préliminaire sur les formations cénozoïques et plus récentes de la chaîne annamitique septentrionale du haut-Laos (stratigraphie, préhistoire, anthropologie). *Bulletin du Service géologique de l'Indochine*, 22(3): 1-48, figs. 1-54.
- FUNAIOLI, Ugo & Alberto M. SIMONETTA, 1961. Statut actuel des ongles de Somalie. *Mammalia*, 25: 97-111, fig. 1.
- & —, 1966. The mammalian fauna of the Somali republic: status and conservation problems. *Monitore zoologico italiano*, (Suppl.) 74: 285-347, figs. 1-23. [Summary in *Oryx*, 9(3): 180-181 (1967).]
- FURTWÄNGLER, Johann Adolf Michael, 1896. Beschreibung der geschnittenen Steine im Antiquarium: xiii, 391. Berlin, W. Spemann.
- FYTCH, Albert, 1878. Burma past and present with personal reminiscences of the country, I: xv, 355. London, C. Kegan Paul & Co.
- GAEBLER, B., 1883a, b. Der zoologische Garten zu Berlin. *Zoologische Garten*, (A.F.) 24(7): 208-212 (1883a) and 24(8): 240-248 (1883b).
- , 1901. Ein Gang durch den zoologischen Garten zu Frankfurt a.M. *Zoologische Garten*, (A.F.) 42(7): 193-204.
- GAERDES, Fritz, 1966. Tiere im Veld: Lebensbilder aus der Tierwelt Südwestafrikas: 240. Windhoek, S.W.A. wissenschaftlichen Gesellschaft.
- GAERDES, Jan, 1963. Frühere Vorkommen vom Breitmaulnashorn (*Ceratotherium simum*) in Südwestafrika. *Mitteilungen der S.W.A. wissenschaftliche Gesellschaft*, 4(9): 1-3.
- , 1967. Nashörner in Südwestafrika. *Mitteilungen der S.W.A. wissenschaftliche Gesellschaft*, 8 (3/4), supplement: i-viii and 8(5), supplement: ix-xv.
- GAIRDNER, K.G., 1915. Notes on the fauna and flora of Rathuri and Petchaburi districts (continued). *Journal of the Natural history society of Siam*, 1(3): 131-156.
- , 1919. A list of Siamese and Lao names of mammals. *Journal of the Natural history society of Siam*, 3(2): 121-126.
- GALTON, Francis, 1853. The narrative of an explorer in tropical South Africa: xv, 314. London, John Murray.

- GARNIER, Francis, 1873. Voyage d'exploration en Indo-Chine effectué pendant les années 1866, 1867 et 1868 par une commission française, t. I, v. 580. Paris, Hachette et cie.
- GARROD, Alfred Henry, 1873. On the visceral anatomy of the Sumatran rhinoceros (*Ceratorhinus sumatrensis*). *Proceedings of the Zoological society of London*, 1873: 92-104, figs. 1-8.
- , 1874. On the death of a rhinoceros in the Society's gardens, and on some points in its anatomy. *Proceedings of the Zoological society of London*, 1874: 2.
- , 1877a. On some points in the visceral anatomy of the rhinoceros of the Sunderbunds (*Rhinoceros sondaicus*). *Proceedings of the Zoological society of London*, 1877: 707-711, figs. 1-3.
- , 1877b. On the Taenia of the rhinoceros of the Sunderbunds (*Plagiotenia gigantea*, Peters). *Proceedings of the Zoological society of London*, 1877: 788-789, 1 fig.
- , 1879. On the brain of the Sumatran rhinoceros (*Ceratorhinus sumatrensis*). *Transactions of the Zoological society of London*, 10: 411-413, pl. 70.
- GASS, F.T., 1971. 111 met, the Indian rhino. *Field*, 238: 326, 1 fig.
- GATTI, Attilio, 1965. Il vero cacciatore in Africa: v, viii, 9-228. Milano, Longanesi & Co.
- GEE, Edward Pritchard, 1948a. The great Indian one-horned rhinoceros: how 'Mohan' came from Kaziranga, Assam, to Whipsnade. *Zoo Life*, 3(4): 106-107, 2 figs.
- , 1948b. The great one-horned rhinoceros in Kaziranga sanctuary, Assam. *Journal of the Bengal natural history society*, 23(2): 63-65, 1 pl.
- , 1949a. The Indian rhinoceros. *Loris*, Colombo, 5(2): 73-76, 3 figs.
- , 1949b. Home of India's rhino. *Journal of the Society for the preservation of the wild fauna of the Empire*. (N.S.) 60: 25-27, 2 figs.
- , 1950a. Wild life reserves in India: Assam. *Journal of the Bombay natural history society*, 49(1): 81-89, pls. 1-2.
- , 1950b. The Indian rhino faces extinction. *Country Life*, 107: 1731, 1733, 1735, 5 figs.
- , 1952a. The great Indian one-horned rhinoceros. *Oryx*, 1(5): 224-227, 2 figs. (Reprinted in the *Journal of the Bengal natural history society*, 25(4): 173-177, 3 pls.)
- , 1952b. Early rhinoceros in Europe. *Country Life*, 112: 401, 1 fig.
- , 1952c. Catching a bride for 'Mohan': how the rhinoceros is trapped and transported in Assam. *Zoo Life*, 7(3): 102-105, 7 figs.
- , 1953a. The life history of the great Indian one-horned rhinoceros (*R. unicornis* Linn.). *Journal of the Bombay natural history society*, 51(2): 341-348, 1 pl.
- , 1953b. Further observations on the great Indian one-horned rhinoceros (*R. unicornis* Linn.). *Journal of the Bombay natural history society*, 51(4): 765-772, pls. 1-2.
- , 1953c. Information wanted on the Indian rhinoceros. *Journal of the Bengal natural history society*, 26(3): 123-126.
- , 1955. Great Indian one-horned rhinoceros (*R. unicornis* Linn.) cow with (presumptive) twin calves. *Journal of the Bombay natural history society*, 53(2): 256-257.
- , 1958. Four rare Indian animals. *Oryx*, 4(6): 353-358, 4 figs.
- , 1959a. Report on a survey of the rhinoceros area of Nepal, March and April 1959. *Oryx*, 5(2): 53-85, pls. 1-13, 3 maps.
- , 1959b. The great Indian rhinoceros (*R. unicornis*) in Nepal: report of a fact-finding survey; April-May 1959. *Journal of the Bombay natural history society*, 56(3): 484-510, pls. 1-3, maps 1-3.
- , 1963a. Report on a brief survey of the wild life resources of Nepal, including the rhinoceros, March 1963. *Oryx*, 7(2/3): 67-76, 5 figs, 2 maps.
- , 1963b. Armour-plated rhino. *Animals*, 2(19): 510-512, 3 figs.
- , 1964. The wildlife of India: 192. London, Collins.
- GELPKE, (?) 1838. Schets van het eiland Nousakambang-an. *Tijdschrift voor Nèerland's Indië*, 1(2): 54-70.
- GENS, Eugène, 1861. Promenade au Jardin zoologique d'Anvers: 188. Antwerpen, J.E. Buschmann.
- GENTILL, Gino Vinicio, 1957. Roman life in 1,600-year-old color pictures. *National geographic magazine*, 111: 210-229, 21 figs.
- GEOFFROY-ST-HILAIRE, Etienne & Frédéric CUVIER, [1820]. Le rhinocéros unicolore mâle. Pp.

- 1-3, pls. 1-2 in: Histoire naturelle des mammifères, avec figures originales, coloriées, dessinées, d'après des animaux vivants, VI. Paris, Blaise.
- & —, [1824]. Rhinocéros de Java. Pp. 1-2, pl. 1 in: Histoire naturelle des mammifères..., VI. Paris, Blaise.
- & —, [1825]. Rhinocéros de Sumatra. Pp. 1-2, pl. 1 in: Histoire naturelle des mammifères..., VI. Paris, Blaise.
- & Georges CUVIER, 1795a. Sur le rhinocéros bicorné. *Magazin encyclopédique*, 1: 326-328.
- & —, 1795b. Mémoire sur une nouvelle division des mammifères, et sur les principes qui doivent servir de base dans cette sorte de travail. *Magazin encyclopédique*, 2: 164-190.
- , André Marie Constant DUMÉREL & Georges CUVIER, 1831. Rapport sur les collections zoologiques et botaniques ramassées dans les Indes-Orientales et au Cap de Bonne-Espérance, par M. Lamare Piquot. *Bulletin des sciences naturelles et de géologie*, 26: 180-186; and in *Procès-verbaux des séances de l'Académie des sciences*, Paris, 9 (années 1828-1831): 629-631 (published Hendaye, 1921).
- GEOFFROY-ST-HILAIRE, Isidore, 1842-43. Description des collections de Victor Jacquemont: mammifères et oiseaux: 87, iv. Paris.
- GEORGE, Louis, 1946. Tchad: chasses et voyage: xix, 333. Paris, Boivin.
- GEORGE, Wilma, 1969. Animals and maps: 235. London, Secker and Warburg.
- GERHARDT, Ulrich, 1904. Morphologische und biologische Studien über die Kopulationsorgane der Säugetiere. *Jenaische Zeitschrift für Naturwissenschaften*, 39: 43-118, pl. 1, figs. 1-3.
- , 1909. Die gegenwärtige Stand der Kenntnisse von den Copulationsorgane der Wirbeltiere, insbesondere der Amniota. *Ergebnisse und Fortschritte der Zoologie*, 1: 307-402, figs. 1-16.
- GERLACH, Richard, 1964. Hoe dieren spelen: 176. Amsterdam, Ploegsma.
- GEROUDET, Paul, 1968. On veille jalousement sur les derniers rhinocéros de Java. *Vie des bêtes*, 120: 18-19, 5 figs.
- GERVAIS, François Louis Paul, 1855. Histoire naturelle des mammifères avec l'indication de leurs mœurs, et de leurs rapports avec les arts, le commerce et l'agriculture, t. 1, 341. Paris, L. Curmer.
- & Henri Frédéric Paul GERVAIS, 1875a. Structure de l'intestin grêle chez le rhinocéros. *Journal de zoologie*, 4: 465-474, pls. 11-12.
- & —, 1875b. Sur une particularité anatomique remarquable du rhinocéros. *Comptes rendus hebdomadaires des séances de l'Académie des sciences*, Paris, 81: 488-491.
- & —, 1875c. Particularité anatomique remarquable du rhinocéros. *Bulletin de l'Association scientifique de France*, 17: 36-39.
- GERVAISE, Nicolas, 1688. Histoire naturelle et politique de Siam, divisée en quatre parties: la première contenant la situation, & la nature du pays; la seconde, les mœurs des habitants, leur loix, & leurs coutumes; la troisième, leur religion; la quatrième, ce qui regarde le Roy qui règne à présent, & ce qu'il y a de plus particulier dans la cour de ce royaume: xvi, 324, vii. Paris, Claude Barbin.
- GESSNER, Conrad, 1551. *Historiae animalium lib. I. de quadrupedibus viviparis*: xl, 1104, ix. Tiguri, Christ. Froschoverus.
- , 1553. *Icones animalium quadrupedum viviparorum et oviparorum, quae in Historia Animalium Conradi Gesneri describuntur, cum nomenclaturis singulorum latinis, italicis, gallicis et germanicis plerumque, per certos ordines digestae*: 64, iii. Tiguri, C. Froschoverus.
- , 1563. *Thierbuch, das ist ein kurtze beschreybung aller vierfüssigen Thieren so auff der Erden und in Wassern wonend, sampt irer waren Conterfactur*: unpag. Zürich, Christoffel Froschower.
- GEWALT, Wolfgang, 1965. Ein ohrmuschel- und schwanzquastenloses Spitzmaul-Nashorn (*Diceros bicornis* L.). *Zeitschrift für Säugetierkunde*, 30: 320, 1 fig.
- GHICA, Nicolas D., 1898. Cinq mois au pays des Somalis: vi, 223. Genève & Bâle, Georg & Co.
- GHOSH, A.K., 1945. The Indian fauna during 1943-44. *Current science*, Bangalore, 14(9): 240.
- GIBBONS, Alfred St. Hill, 1898. Exploration and hunting in central Africa 1895-96: xi, 408. London, John Murray.

- , 1904. Africa from south to north through Marotseland, I: iii-xxi, 297; II: xix, 276. London & New York, John Lane.
- GIEBEL, Christoph Gottfried Andreas, 1851. Beiträge zur Osteologie des Rhinoceros. *Jahresbericht des wissenschaftlichen Vereines in Halle*, 3: 72-157, pl. 3.
- , 1855. Die Säugethiere in zoologischer, anatomischer und palaentologischer Beziehung umfassend dargestellt: xii, 1108. Leipzig, Ambrosius Abel.
- GEISE, Ursula, 1962. Wiener Menagerien: Ebersdorf, Neugebäude, Belvedere, Schönbrunn: 168. Wien, Bergland Verlag (Österreich-Reihe 165/167).
- GILES, Herbert Allen & Lionel GILES, 1915. Mr. Laufer and the rhinoceros. Pp. 11-38, 3 figs. in: H.A. Giles (ed.), *Adversaria sinica*, series 2: 60. Shanghai, Kelly & Walsh.
- GILL, Theodore Nicholas, 1872. Arrangement of the families of mammals, with analytical tables. *Smithsonian miscellaneous collections*, 11(1): i-vi, 1-98.
- GILLET, Suzette; Paul WERNERT & Jacqueline KOULMANN, 1957. Catalogue des exemplaires de Rhinocerotidea du Musée de l'institut de géologie de Strasbourg. *Bulletin du Service de la carte géologique d'Alsace et de Lorraine*, Strasbourg, 10(2): 61-73, 1 pl.
- GIMLETTE, John D., 1929. Malay poisons and charm cures: xiv, 301. London, J. & A. Churchill.
- & Isaac H. BURKILL, 1930. The Medical book of Malayan medicine, translated by Inche' Ismail Munshi, possibly in Penang, circa 1886. *Garden's bulletin, Straits settlement*, 6(11-15): 323-474.
- GIRAN, Paul, 1912. Magie & religion annamites: introduction à une philosophie de la civilisation du peuple d'Annam: 1, v, 449. Paris, Augustin Challamel.
- GLEICHEN, Albert Edward Wilfred, 1905. The Anglo-Egyptian Sudan: a compendium prepared by officers of the Sudan government, I (geographical, descriptive and historical): xiii, 371. London, His Majesty's stationary office.
- GLEISS, Horst G.W., 1967. Unter Robben, Gnus und Tigerschlangen: Chronik des zoologischen Gartens Breslau 1865-1965: 290. Wedel, Natur et Patrio Verlag.
- GLENN, Myra, 1954. Sally and Barney. *Zoonoos*, San Diego, 27(4): 5-7, 1 fig.
- GLOGER, Constantin Wilhelm Lambert, 1841. Gemeinnütziges Hand- und Hilfsbuch der Naturgeschichte: für gebildete Leser aller Stände, besonders für die reifere Jugend und ihre Lehrer, I: xxiv, 496. Breslau, Aug. Schütz & Co.
- GLOVER, Philip Earle, 1970. The Tsavo and the elephants. *Oryx*, 10(5): 323-325.
- & Daphne SHILDRICK, 1964. An urgent research problem on the elephant and rhino populations of the Tsavo national park in Kenya. *Bulletin of epizootic disease of Africa*, 12(1): 33-38.
- GLOVER, Richard, 1956. Weapons of the great Indian rhinoceros. *Oryx*, 3(4): 197.
- GMELIN, Johann Friedrich, 1789. Caroli Linnaei systema naturae per regna tria naturae, secundum classes, ordines, genera, species; cum characteribus, differentiis, synonymis, locis, ed. XIII aucta, reformata, I: xii, 500. Lugduni, J.B. Delamolliere.
- GMELIN, Samuel Gottlieb, 1767. Waarneeming over den rhinoceros of neushoorn. *Verhandelingen uitgegeven door de Hollandsche Maatschappye voor wetenschappen te Haarlem*, 9(3): 632-636.
- GODBEY, Allen Howard, 1939. The unicorn in the old testament. *American journal of Semitic languages and literatures*, 56(3): 256-296.
- GODDARD, John, 1966. Mating and courtship of the black rhinoceros (*Diceros bicornis* L.). *East African wildlife journal*, 4: 69-75, 8 figs.
- , 1967a. The validity of censusing black rhinoceros populations from the air. *East African wildlife journal*, 5: 18-23.
- , 1967b. Home range, behaviour, and recruitment rates of two black rhinoceros populations. *East African wildlife journal*, 5: 133-150.
- , 1968. Food preferences of two black rhinoceros populations. *East African wildlife journal*, 6: 1-18, pls. 1a-b.
- , 1969a. Aerial census of black rhinoceros using stratified random sampling. *East African wildlife journal*, 7: 105-114, pls. 1-2, fig. 1.
- , 1969b. A note on the absence of pinnae in the black rhinoceros. *East African wildlife journal*, 7: 178-180, pl. 1.

- , 1969c. Rhino spotting difficult from a plane. *Oryx*, 10(3): 146.
- , 1970a. Age criteria and vital statistics of a black rhinoceros population. *East African wildlife journal*, 8: 105-121, pls. 1-2, figs. 1-2.
- , 1970b. Food preferences of black rhinoceros in the Tsavo national park. *East African wildlife journal*, 8: 145-161, pls. 1-2, fig. 1.
- , 1970c. A note on age at sexual maturity in wild black rhinoceros. *East African wildlife journal*, 8: 205.
- , 1970d. Black rhino of Tsavo. *Animal Kingdom*, 73(2): 2-11, 10 figs.
- , 1973. The black rhinoceros. *Natural History*, 82(4): 58-67, 7 figs.
- GODINHO DE EREDIA, Emanuel, 1882. De Malaca, e India meridional, com o Cathay. In: Malaca, l'Inde méridionale et le Cathay: manuscrit original autographe de Godinho de Eredia, appartenant à la Bibliothèque royale de Bruxelles, reproduit en fac-simile et traduit par M. Léon Janssen. Bruxelles, C. Muquardt. (Original 1613).
- GOENS, Ryckloff Volckertsz. van, 1856. Reijtsbeschrijving van den weg tijt Samarangh nae de koninklijke hoofdplaats Mataram, mitsgaders de zeeden, gewoonten ende regering van den Sousouhouan, groot machtichste koningh van't eijlant Java. [Written 25 April 1656.] *Bijdragen tot de taal-, land- en volkenkunde van Nederlandsch Indië*, 4: 307-350.
- GÖTZEN, Gustav Adolf von, 1895. Durch Afrika von Ost nach West: Resultate und Begebenheiten einer Reise von der Deutsch-Ostafrikanischen Küste bis zur Kongomündung in den Jahren 1893/94: xii, 417. Berlin, Dietrich Reimer.
- GÓIS, Damião de, 1955. Chronica do felicissimo rei D. Manuel. Nova edição conforme a primeira de 1566, parte IV: v, 292. Coimbra, Universidade.
- GOLDSMITH, Oliver, 1816. A history of the earth, and animated nature, new ed., III: iv, 412. London, Wingrave & Collingwood etc.
- , [1840]. A history of the earth and animated nature, with numerous notes, from the works of the most distinguished British and foreign naturalists, embodying the most recent discoveries in natural history, E lx, iii-v, 564. Glasgow, Blackie and Son.
- GOMBRICH, Ernst Hans Jozef, 1962. Art and illusion: a study in the psychology of pictorial representation, 2nd ed.: xiii, 388. London, Phaidon press.
- GOMES, Edwin Herbert, 1911. Seventeen years among the sea dyaks of Borneo: a record of intimate association with the natives of the Bornean jungles: xx, 21-343. London, Seeley & Co.
- GOMES E SOUSA, A., 1955. Reservas naturais de Moçambique. *Memórias do Museu Dr. Alvaro de Castro*, 3: 29-37, 1 map.
- GORDON CLIMMING, Roualeyn George, 1850. Five years of a hunter's life in the far interior of South Africa: with notices of the native tribes, and anecdotes of the chase of the lion, elephant, hippopotamus, giraffe, rhinoceros, &c., I: xvi, 386; II: x, 370. London, John Murray.
- GORGAS, Michael, 1970. Eindrücke in den Zoos von Thailand. *Freunde des Kölner Zoo*, 13(3): 101-109, figs. 1-20.
- , 1971. Der zoologische Garten von Rangun. *Zeitschrift des Kölner Zoo*, 14(1): 25-32, figs. 1-19.
- GORKUM, Karel Wessel van, 1865. Jaarlijksch berigt over 1864, aangaande den toestand der kinakultuur op Java. *Natuurkundig tijdschrift voor Nederlandsch-Indië*, 28: 241-265.
- , 1868. Verslag omtrent de kina-kultuur op Java over het jaar 1867. *Natuurkundig tijdschrift voor Nederlandsch-Indië*, 30: 235-247.
- GOSSOUIN, 1913. L'image du monde du maître Gossouin, rédaction en prose. Texte du manuscrit de la Bibliothèque Nationale Fonds Français No. 574 avec corrections avec d'autres manuscrits, notes et introduction. Thèse de doctorat... par O.H. Prior: 1, 216. Lausanne, Imprimeries réunies S.A. (Manuscript dated ca. 1245 or 1247.)
- GOUEIRA, A. de Mello, 1969. Black rhinoceros born. *International zoo news*, 16(2): 48.
- GOWERS, William, 1950. The classical rhinoceros. *Antiquity*, 24: 61-71, figs. 1-6.
- , 1951. The classical rhinoceros again. *Antiquity*, 25: 155, 1 fig.
- , 1952. Early rhinoceros in Europe. *Country Life*, 111: 288-289, figs. 1-4.
- GRAHAM, R.M., 1929. Notes on the mangrove swamps of Kenya. *Journal of the East Africa and Uganda natural history society*, 36: 157-164, 3 pls.

- GRANT, James Augustus, 1872. Summary of observations on the geography, climate, and natural history of the Lake region of Equatorial Africa, made by the Speke and Grant expedition, 1860-63. *Journal of the Royal geographical society*, 42: 243-342.
- GRASSÉ, Pierre-Paul, 1955. *Traité de zoologie: anatomie, systématique, biologie*, XVII: Mammifères, les ordres: anatomie, éthologie, systématique (premier fascicule): i, 1170. Paris, Masson & Cie.
- GRAY, John Edward, 1821. Natural arrangement of vertebrate animals. *Medical repository*, London, 15: 297-310.
- , 1825. An outline of an attempt at the disposition of mammalia into tribes and families, with a list of the genera apparently appertaining to each tribe. *Annals of philosophy*, (N.S.) 10: 337-344.
- , 1843. List of the specimens of mammalia in the collection of the British Museum: xxviii, 216. London, Trustees British Museum.
- , 1846. Catalogue of the specimens and drawings of mammalia and birds of Nepal and Thibet, presented by B.H. Hodgson, Esq. to the British Museum: xii, 156. London, Trustees British Museum.
- , 1853. Notice of a presumed new species of rhinoceros, from South Africa. *Proceedings of the Zoological society of London*, 1853: 46-47, 1 fig.
- , 1854. On a new species of rhinoceros. *Proceedings of the Zoological society of London*, 1854: 250-251, 1 fig.
- , 1862. Catalogue of the bones of mammalia in the collection of the British Museum: iv, 296. London, Trustees British Museum.
- , [1868]. Observations on the preserved specimens and skeletons of the Rhinocerotidae in the collection of the British Museum and Royal College of Surgeons, including the descriptions of three new species. *Proceedings of the Zoological society of London*, 1867: 1003-1032, figs. 1-6.
- , 1869a. The keitloa (*Rhinaster keitloa*). *Annals and Magazine of natural history*, (4) 3: 244.
- , 1869b. Catalogue of carnivorous, pachydermatous, and edentate mammalia in the British Museum: vii, 398. London, Trustees British Museum.
- , 1869c. On the incisor teeth of the African rhinoceros. *Proceedings of the Zoological society of London*, 1869: 225.
- , 1872. On the double-horned Asiatic rhinoceros (*Ceratorhinus*). *Annals and Magazine of natural history*, (4) 10: 207-209.
- , 1873a. On the dentition of rhinoceroses (*Rhinocerotidae*) and on the characters afforded by their skulls. *Annals and Magazine of natural history*, (4) 11: 356-361, pl. 11.
- , 1873b. On the black and ashy-grey double-horned Asiatic rhinoceroses (*Ceratorhinus sumatrensis*, *C. niger*, and *C. lasiotis*). *Annals and Magazine of natural history*, (4) 12: 252-253.
- GREED, G.R., 1967. Notes on the breeding of the black rhinoceros, *Diceros bicornis*, at Bristol zoo. *International Zoo Yearbook*, 7: 158-161.
- GREED, Reginald E., 1961. The composition of the milk of the black rhinoceros. *International Zoo Yearbook*, 2: 106.
- GREGORIUS Magnus (590-604). *Moralium libri, sive expositio in librum B. Job*. In: J.P. Migne, *Patrologiae cursus completus Latinae*, vol. 86.
- GREGORY, John Walter, 1896. The great Rift valley: being the narrative of a journey to Mount Kenya and Lake Baringo with some account of the geology, natural history, anthropology, and future prospects of British East Africa: xxi, 422. London, John Murray.
- GREGORY, Margaret E., S.J. ROWLANDS, S.Y. THOMPSON & Vanda M. KON, 1965. Changes during lactation in the composition of the milk of the African black rhinoceros (*Diceros bicornis*). *Journal of zoology*, 145: 327-333, figs. 1-2.
- GREW, Nehemiah, 1681. *Museum Regalis Societatis, or a catalogue & description of the natural and artificial rarities belonging to the Royal Society and preserved at Gresham college*: xii, 388. London, W. Rawlins.
- GRIFFITH, A. Stanley, 1939. Infections of wild animals with tubercle bacilli and other acid-fast bacilli. *Proceedings of the Royal society of medicine*, 32(2): 1405-1411.
- GRIFFITH, Edward, 1827. The animal kingdom arranged in conformity with its organization

- by the Baron Cuvier, with additional descriptions of all the species hitherto named, and of many not before noticed, III: vi, 468. London, Geo. B. Whittaker.
- GRIGSON, Geoffrey, [1955]. English drawing from Samuel Cooper to Gwen John: xv, 186. London, Thames & Hudson.
- GRIM, Herman Niclas, 1677. De spir. [itu] cornu rhinocerotis. Ex epist. Hermann Nicolai Grim, Nagapatnam Ind. Orient. 22 Sept. 1674 ad D. Olafum Borrichium. *Acta medica et philosophica Hafniensia*, 3: 166.
- GRIMWOOD, L.R., C.W. BENSON & W.F.H. ANSELL et al., 1958. The present-day status of ungulates in Northern Rhodesia. *Mammalia*, 22: 451-468, 1 map.
- GROBBELAAR, C.S., 1924. Suid-Afrikaanse soogdiere, hulle geskiedenis en belang vir die mens: v, 255. Stellenbosch, Pro Ecclesia.
- GROBLER, J.H., 1971. Malati park nature reserve. *African wildlife*, 25(2): 53.
- GROENEVELDT, Willem, 1938. Een overzicht van de vaste trekwegen van olifanten in Zuid-Sumatra alsmede eenige gegevens over rhinocerossen. *Mededelingen Nederlandse commissie voor internationale natuurbescherming*, 12: 73-109, 1 pl, 1 map.
- GROENEVELDT, Willem Pieter, 1880. Notes on the Malay archipelago and Malacca compiled from Chinese sources. *Verhandelingen van het Bataviaasch genootschap van kunsten en wetenschappen*, 39: i-x, 1-144, 1 map.
- GROGAN, Ewart Scott & Arthur H. SHARP, 1900. From the Cape to Cairo: the first traverse of Africa from south to north: xvi, 377. London, Hurst & Blackett.
- GROMIER, Emile, 1933. La protection de la faune Africaine. *Bulletin de la Société nationale d'acclimatation de France*, 80: 201-211, 259-268, 285-297.
- , 1934. En brousse africaine: souvenirs et observations zoologiques. *Terre et la vie*, 4(6): 355-365, 7 figs.
- , 1949. Grands fauves d'Afrique, I: M'saragba, rhinocéros du Salamat; Diamous, buffle du centre africain; Simba, lion du Kénia: 289. Paris, Amiot-Dumont.
- GROSE, F.S., 1914. Shan names for mammals found in the northern Shan states. *Journal of the Bombay natural history society*, 23: 352-353.
- GROTE, Hermann, 1930. Zululand's white rhinos. *Zoologische Garten*, (N.F.) 2(10/12): 342.
- GROUT, Lewis, 1863. Zulu-land; or, life among the Zulu-Kafirs of Natal and Zulu-land, South Africa: 351. Philadelphia, Presbyterian publication committee.
- GROVES, Colin P., 1965. Description of a new Subspecies of rhinoceros, from Borneo, *Didermocerus sumatrensis harrissoni*. *Säugetierkundliche Mitteilungen*, 13(3): 128-131.
- , 1967a. On the rhinoceroses of South-East Asia. *Säugetierkundliche Mitteilungen*, 15(3): 221-237, figs. 1-4.
- , 1967b. Geographic variation in the black rhinoceros *Diceros bicornis* (L., 1758). *Zeitschrift für Säugetierkunde*, 32(5): 267-276, figs. 1-2.
- , 1967c. Comment on the proposed decision on the validity of *Didermocerus* Brookes, 1828 (Mammalia). *Bulletin of zoological nomenclature*, 24(5): 279.
- , 1971. Species characters in rhinoceros horns. *Zeitschrift für Säugetierkunde*, 36(4): 238-252, figs. 1-22.
- , 1972. *Ceratotherium simum*. *Mammalian species*, 8: 1-6, figs. 1-5.
- , 1975. Taxonomic notes on the white rhinoceros *Ceratotherium simum* (Burchell, 1817). *Säugetierkundliche Mitteilungen*, 23(3): 200-212, fig. 1.
- & Claude GUÉLIN, 1980. Le Rhinocéros sondaïcus annamitique (Mammalia, Perissodactyla) d'Indochine: distinction taxinomique et anatomique; relations phylétiques. *Géobios*, Lyon, 13(2): 199-208, figs. 1-4.
- & Fred KURT, 1972. *Dicerorhinus sumatrensis*. *Mammalian species*, 21: 1-6, figs. 1-4.
- GRUNBERG, W. & H. BURTSCHER, 1968. Uebereine pockenartige Krankheit beim Rhinoceros (*Diceros bicornis* L.) *Zentralblatt für Veterinärmedizin*, (reihe B) 15: 649-657, figs. 1-8. (Abstract: *Pathologia veterinaria*, 5: 564 (1968).)
- GRZIMEK, Bernhard, 1957. Die Zusammensetzung der Nashornmilch (Abstract). *Milchwissenschaft*, 12(6): 231, fig. 1.
- , 1958. Die gegenwärtige Zahl der Nashörner auf der Erde. *Säugetierkundliche Mitteilungen*, 6(3): 117-120, fig. 1.
- , 1960a. Die gegenwärtige Zahl der Nashörner auf der Erde (Teil 2). *Säugetierkundliche*

- Mitteilungen*, 8(1/2): 21-25, figs. 1-2.
- , 1960b. Die Zusammensetzung der Nashornmilch. *Zoologische Garten*, (N.F.) 25(4): 202-204.
- , 1963. Oase voor dieren: om het behoud van Afrika's reservaten: 212. Amsterdam, Ploegsma. (Original: Auch Nashörner gehören allen Menschen. Frankfurt a.M., Ellstein, 1962.)
- , 1965. Rhinos belong to everybody: Kenya and Tanzania continue to kill rhinos. *International zoo news*, 12(3): 75-76.
- , 1966. Kann das Spitzmaulnashorn, *Diceros bicornis* (Linné, 1758), die Ohren zukneifen? *Säugetierkundliche Mitteilungen*, 14: 39-41, figs. 1-2.
- (ed.), 1969. Het leven der dieren, encyclopedie van het dierenrijk, XIII, zoogdieren 4: 627. Utrecht/Antwerpen, Het Spectrum.
- , 1971. Wiederschen mit dem Kongo. *Tier*, 11(9): 20-29, 14 figs.
- & Michael GRZIMEK, (n.d.). Serengeti mag niet sterven: 367.000 dieren zoeken een land: 240. Amsterdam, Scheltens & Giltay. (Original: Serengeti darf nicht sterben. Berlin, Ullstein.)
- GRZIMEK, Michael & Bernhard GRZIMEK, 1960. A study of the game of the Serengeti plains: a record of the counting, the capture and marking of the animals; their seasonal migrations and the factors influencing these movements. *Zeitschrift für Säugetierkunde*, 25 (Sonderheft): 1-61, figs. 1-21.
- GUBERNATIS, Angelo de, 1867. Memoria intorno di viaggiatori italiani nelle Indie orientali dal secolo XIII a tutto il XVI: 171. Firenze, Fodratti.
- , 1875. Storia dei viaggiatori italiani nelle Indie orientali: viii, 400. Livorno, Franc. Vigo.
- GÜNTHER, Klaus, 1967. Das Einhorn: die eklektische, natur- und symbolgeschichtliche Betrachtung eines Fabeltieres. *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin*, (N.F.) 7 (1-3): 1-36, figs. 1-10.
- GUÉRIN, Claude, 1966. *Diceros douariensis* nov. sp., un rhinocéros du mio-pliocène de Tunisie du Nord. *Documents des laboratoires de géologie de la Faculté des sciences de Lyon*, 16: 1-50, figs. 1-12.
- , 1976. Rhinocerotidae and Chalicotheriidae (Mammalia, Perissodactyla) from the Shungura formation, lower Omo basin. Pp. 214-221, figs. 1-3 in: Yves Coppens, F. Clark Howell, Glynn L. Isaac & Richard E.F. Leakey, Earliest man and environments in the Lake Rudolf basin: stratigraphy, paleoecology, and evolution. Chicago and London, Chicago university press.
- , 1979. Chalicotheriidae et Rhinocerotidae (Mammalia, Perissodactyla) du miocène au pléistocène de la Rift valley (Afrique orientale). Un exemple d'évolution: le squelette post-crânien des *Diceros* et *Ceratotherium* plio-pleistocènes. *Bulletin de la Société géologique de France*, (7) 21 (3): 283-288, figs. 1-5.
- , 1980. Les rhinocéros (Mammalia, Perissodactyla) du miocène terminal au pléistocène supérieur en Europe occidentale: comparaison avec les espèces actuelles. *Documents des laboratoires de géologie Lyon*, 79 (1, 2, 3): 3-1185, pls. 1-21, figs. 1-115.
- & C. MOURER, 1969. Le Rhinoceros sondaicus Desmarest du gisement néolithique de Loang Spean, province de Battambang, Cambodge. *Documents des laboratoires de géologie de la Faculté des sciences de Lyon*, 31: 39-53, figs. 1-4. (Also [not seen] in: *Annales de la Faculté des sciences Phnom Penh*, 2: 261-274, figs. 1-4 (1970).)
- GUGGSBERG, Charles Albert: Walter, 1966a. S.O.S. Rhino: 174. London, Andre Deutsch. (Survival book, 7).
- , 1966b. An appreciation of African rhinoceroses. *Animal Kingdom*, 67(4): 115-121, 8 figs.
- , 1966c. Neushoorns in Amboseli. *Artis*, Amsterdam, 12(2): 40-45, 4 figs.
- GUIARD de SERVIGNÉ, J.-B., 1750. Le rhinocéros, poème en prose divisé en six chants par M. elle de***. xvi, 17-28. 1-80. (no place)
- GUILDAY, John E., 1952. Rhinoceroses—a family tree. *Carnegie magazine*, 26(1): 388-390.
- GUSH, Reg. 1964. To save a rhino. *African wildlife*, 18(3): 197-201, 4 figs.
- GYLDENSTOLPE, Nils Carl Gustaf Fersen, 1914. Mammals collected, or observed by the Swedish zoological expedition to Siam 1911-1912. *Arkiv för zoologi*, 8(23): 1-36.
- , 1916. Zoological results of the Swedish zoological expeditions to Siam, 1911-1912 & 1914-

- 1915, V: Mammals II. *Kungliga Svenska vetenskapsakademiens Handlingar*, (N.F.) 57(2): 1-59, pls. 1-6.
- , 1919a. On a collection of mammals made in Eastern and Central Borneo by Mr. Carl Lumholtz. *Kungliga Svenska vetenskapsakademiens Handlingar*, 60(6): 1-62, pls. 1-6, figs. 1-3.
- , 1919b. A list of the mammals at present known to inhabit Siam. *Journal of the Natural history society of Siam*, 3(3): 127-175.
- , 1928. Zoological results of the Swedish expedition to Central Africa 1921, Vertebrata 5: Mammals from the Birunga volcanoes, north of Lake Kivu. *Arkiv för zoologi*, 20A (4): 1-76, pls. 1-4.
- GUZEN, Agatha, 1960. Liste des mammifères ayant figuré ou figurant dans les collections du Jardin zoologique de la Société royale de zoologie d'Anvers, depuis sa fondation en 1843 jusqu'au mois de juin 1960 (inclus), avec en regard l'année la plus reculée au cours de laquelle leur présence fut établie. *Bulletins de la Société royale de zoologie d'Anvers*, 16: 1-18.
- HAAGNER, Alwin Karl, 1920. South African mammals: a short manual for the use of field naturalists, sportsmen and travellers: xx, 248. London, H.F. & G. Witherby/Cape Town, T. Maskew Miller.
- HAAN, Frederik de, 1911. Priangan: de Preanger regentschappen onder het Nederlandsch bestuur tot 1811, II: xviii, 906. [Batavia], Bataviaasch genootschap van kunsten en wetenschappen.
- HAECKEL, Ernst Heinrich Philip August, 1895. Systematische Phylogenie der Wirbelthiere (Vertebrata), III. Theil des Entwurfs einer systematischen Stammesgeschichte: xx, 660. Berlin, Georg Reimer.
- , 1901. Aus Insulinde: Malayische Reisebriefe: xi, 261. Bonn, Emil Strauss.
- HAERZAERT, J., 1959. The black rhinoceros is brought back to Ruanda. *Oryx*, 5(3): 96-99.
- HAGEN, Bernhard, 1881. Vorläufige Mitteilungen über die Fauna Ostsumatras. *Ausland*, Stuttgart, 28: 553-556.
- , 1890. Die Pflanzen- und Thierwelt von Deli auf der Ostküste Sumatras: naturwissenschaftliche Skizzen und Beiträge. *Tijdschrift van het Koninklijk Nederlandsch aardrijkskundig genootschap*, (2) 7(2): 1-240, 1 pl.
- HAGENBECK, Carl, [1907]. Ein Rückblick: Auszug aus dem in Kürze erscheinende, reich illustrierten Memoirenwerk: Erinnerungen und Erlebnisse von Carl Hagenbeck: i, 12, vii. (Hamburg, Hagenbeck).
- , 1928. Von Tieren und Menschen: erlebnisse und Erfahrungen: 219. Leipzig, Paul List.
- HAGENBECK, Carl-Heinrich, 1969. Notes on the artificial rearing of a great Indian rhinoceros, *Rhinoceros unicornis*, at Hamburg zoo. *International Zoo Yearbook*, 9: 99-101.
- HAGENBECK, Dietrich, 1966. Report on the hand-rearing of an Indian rhinoceros, *Rhinoceros unicornis*, at Hamburg zoo. *International Zoo Yearbook*, 6: 82-87.
- HARGH, J.C., 1975. Case of a constipated rhino. *Veterinary record*, 97: 282.
- , 1977. The capture of wild black rhinoceros using fentanyl and azaperone. *South African journal of wildlife research*, 7(1): 11-14, figs. 1-4.
- HALLEMA, Anne, 1951. Die Kaap in 1776-1777: akwarelle van Johannes Schumacher uit die Swellengrebel-argief te Breda: 23. 's Gravenhage, A.A.M. Stols/Johannesburg, Constantia.
- HALL-MARTIN, Anthony J., 1979. Black rhinoceros in southern Africa. *Oryx*, 15(1): 26-32, 1 pl., 1 map.
- & B.L. PENZHORN, 1977. Behaviour and recruitment of translocated black rhinoceros *Diceros bicornis*. *Koedoe*, 20: 147-162, fig. 1.
- HALLSTROM, Edward, 1967. Notes on breeding the black rhinoceros, *Diceros bicornis*, at Sydney zoo. *International Zoo Yearbook*, 7: 165.
- HALTENORTH, Theodor, H. DILLER & Christia an SMEENK, 1979. Elseviers gids van de Afrikaanse zoogdieren: 374. Amsterdam/Brussel, Elsevier. (Original by Haltenorth & Diller, Säugetiere Afrikas und Madagaskars. München, Verlagsgesellschaft BLV (1977).)
- & W. TRENSE, 1956. Das Grosswild der Erde und seine Trophäen: x, 436 Bonn, München, Wien, Bayerischer Landwirtschaftsverlag.

- HAMERSTER, M., 1926. Bijdrage tot de kennis van de afdeeling Asahan: 204. Amsterdam, Oostkust van Sumatra-instituut (Mededeeling no. 13).
- HAMERTON, A.E., 1939. Review of mortality rates and report on the deaths occurring in the Society's gardens during the year 1938. *Proceedings of the Zoological society of London*, 109 series B: 281-327, graphs 1-9.
- , 1943. Report on deaths occurring in the Society's gardens during the year 1941. *Proceedings of the Zoological society of London*, 112 series B: 120-135.
- HAMILTON, Alexander, 1930. A new account of the East Indies. Now edited with introduction and notes by Sir William Foster, I: xxxvii, 259. London, Argonaut press. (1st ed. 1727).
- HAMILTON, P.H. & J.M., KING, 1969. The fate of black rhinoceroses released in Nairobi national park. *East African wildlife journal*, 7: 73-83, pls. 1-2, figs. 1-4.
- & —, 1970. Black rhinos settle down. *Oryx*, 10(4): 238.
- HAMY, Ernest Théodore, 1893. Les anciennes ménageries royales et la ménagerie nationale, fondée le 14 brumaire an 11 (4 nov. 1793). *Nouvelles archives du Muséum d'histoire naturelle*, (3) 5: 1-15.
- HANITSCH, Richard, 1908. Guide to the zoological collections of the Raffles museum, Singapore: iii, iv, 112. Singapore, Straits times press.
- HANSEN, Olaf, 1955. Zum Russischen etymologischen Wörterbuch. *Zeitschrift für slavische Philologie*, 23: 167-169.
- HAPPOLD, D.C.D., 1973. The distribution of large mammals in West Africa. *Mammalia*, 37(1): 88-93.
- HARA, Kotiro, 1961. How I brought Indian rhinoceros from India (in Japanese). *Animals and Zoo*, Tokyo, 13(11): 11-15, 13 figs.
- HARDY, W.G., 1959. The saga of Gertie's horn. *Wild life*, Nairobi, 1(3): 52-53, 3 figs.
- HARMER, Sidney Frederic, 1921. Exhibition of, and remarks upon, a mounted specimen of a young female *Rhinoceros sondaicus*. *Proceedings of the Zoological society of London*, 1921: 643.
- , 1922. [Letter on *Rhinoceros sondaicus*.] *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 2: 16-17.
- HARPER, Francis, 1940. The nomenclature and type localities of certain old world mammals. *Journal of mammalogy*, 21: 191-203.
- , 1945. Extinct and vanishing mammals of the old world: xv, 850. New York, American committee for international wild life protection (special publication, 12).
- HARRIS, William Cornwallis, 1838. Narrative of an expedition into southern Africa, during the years 1836, and 1837, from the Cape of Good Hope, through the territories of the Chief Moselekatse, to the tropic of capricorn, with a sketch of the recent emigration of the border colonists, with a zoological appendix: xviii, 406. Bombay, American mission press.
- , 1839. The wild sports of southern Africa; being the narrative of an expedition from the Cape of Good Hope, through the territories of the Moselekatse, to the tropic of capricorn: xxiv, 387. London, John Murray.
- , 1840. Portraits of the game and wild animals of southern Africa delineated from life in their native haunts, during a hunting expedition from the Cape colony as far as the tropic of capricorn, in 1836 and 1837, with sketches of the field sports: vi, 175. London, W. Pickering.
- HARRISON, John, 1964. An introduction to the mammals of Sabah: viii, 244. Kota Kinabalu, Sabah society.
- , 1974. An introduction to mammals of Singapore and Malaya, 2nd impression: iii-xi, 340. Singapore, Malayan nature society, Singapore branch. (1st impression 1966).
- HARRISSON, Tom (ed.), 1938. Borneo jungle: an account of the Oxford expedition to Sarawak, by John Ford, C.H. Hartley, Tom Harrison, Patrick M. Syngé, Edward Shackleton: x, 254. London, Lindsay Drummond.
- , 1948. The large mammals of Borneo. *Sarawak Gazette*, December 1, 1948: 254, 261.
- , 1949a. Exploration in central Borneo. *Geographical journal*, 114(4-6): 129-149, 3 pls., 1 map.
- , 1949b. The large mammals of Borneo. *Malayan nature journal*, 4: 70-76.

- , 1955. Borneo fauna anxieties. *Oryx*, 3(3): 134-137.
- , 1956. Rhinoceros in Borneo: and traded to China. *Sarawak museum journal*, (N.S.) 8(8): 263-274, pls. 1-5.
- , 1957. The great cave of Niah: a preliminary report on Bornean prehistory. *Man*, 57: 161-166, pls. M-P.
- , 1961a. The threat to rare animals of Borneo. *Oryx*, 6(2): 126-128.
- , 1961b. Prehistoric fauna changes and losses in Borneo. Pp. 89-92 in: J. Wyatt-Smith & P.R. Wycherley (eds.), *Nature conservation in western Malaysia*, 1961: 260. Kuala Lumpur, Malayan nature society.
- , 1962. Rhino horn cups. *Malayan nature journal*, 16: 73-75, 2 figs.
- , 1965a. A future for Borneo's wildlife? *Oryx*, 8(2): 99-104.
- , 1965b. Editorial preface. *Sarawak museum journal*, (N.S.) 12(25-26): ix-xxi.
- , 1975. The rhinoceros - and mammal extinction in general. *Borneo research bulletin*, 7(2): 71-72. (Partly reprinted in *Oryx*, 13(3): 264 (1976).)
- HARTERT, Ernst Johann Otto, 1901-02. Aus der Wanderjahre eines Naturforschers: Reisen und Forschungen in Afrika, Asien und Amerika, nebst daran anknüpfenden, meist ornithologischen Studien: xv, 329. Berlin, R. Friedländer & Sohn/London, R.H. Porter's Gravenhage, Nijhoff.
- HARTHOORN, Antonie Marinus, 1961. Methods of control of wild animals with the use of drugs, with special reference to therapeutic and veterinary aspects. *International Zoo Yearbook*, 2: 302-307.
- , 1962a. Capture of the white (square-lipped) rhinoceros *Ceratotherium simum simum* (Burchell) with the use of drug immobilization technique. *Canadian journal of comparative medicine and veterinary science*, 26: 203-208, 1 fig.
- , 1962b. The capture and relocation of the white (square-lipped) rhinoceros, *Ceratotherium simum simum*, using drug-immobilizing techniques, at the Umfolozi game reserve, Zululand, Natal. *Sammergeyer*, 2(2): 1-9, 2 figs.
- , 1965. Application of pharmacological and physiological principles in restraint of wild animals. *Wildlife monographs*, 14: 3-78, figs. 1-7.
- , 1966. Restraint of undomesticated animals. *Journal of the American veterinary medical association*, 149: 875-880, figs. 1-3.
- , 1968. Problems and hazards of chemical restraint in wild animals. *International Zoo Yearbook*, 8: 215-220.
- , 1976. The chemical capture of animals: a guide to the chemical restraint of wild and captive animals. London, Ballière Tindall.
- & J.A. LOCK, 1960. The rescue of rhinoceroses at Kariba dam. *Oryx*, 5(6): 352-355, 5 pls.
- & —, 1962. Die Rettung der Nashörner am Kariba-Damm. *Tier*, 2(3): 38-40, 3 figs.
- & Ian C. PLAYER, 1964. The narcosis of the white rhinoceros: a series of eighteen case histories. *Tijdschrift voor diergeneeskunde*, 89 (supplement I): 225-229.
- HARTING, Pieter, 1875. De rhinoceros op Nieuw Guinea. *Album der natuur*, Wetenschappelijk bijblad 1875: 95.
- HARTMANN, Frants, 1971. Rhino. *Africana*, 4(4): 16-19, 8 pls.
- HARTMANN, M.A., 1936. De Hoelobeloe-hoogvlakte in Zuid Sumatra. *Tropische Natuur*, 25(4): 53-60, figs. 1-8, maps 1-3.
- HARTMANN, Robert, 1868. Geographische Verbreitung der im nordöstlichen Afrika wild lebenden Säugethiere. *Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, 3: 345-368.
- HASSELT, Arend Ludolf van, 1861. [Rhinoceroshoorn als middel tegen slangenbeet.] *Verlagen en Mededeelingen der Koninklijke akademie van wetenschappen, afdeling natuurkunde*, 12: 130-132.
- , 1881. Ethnographische atlas van Midden Sumatra, met verklarende tekst: i, 63. Leiden, E.J. Brill.
- HATTING, Tove, 1967. Animal bones from the tombs of the Bang site settlement, Ban Kao. Pp. 155-164 in: *Archaeological excavations in Thailand, II: Ban Kao. Neolithic settlements with cemeteries in the Kanchaburi province, the Thai-Danish prehistoric expedition 1960-62*: 164. Copenhagen, Munksgaard.
- HAVENGA, M.J., 1970. Black rhino for Kruger park? *African wildlife*, 24(3): 257-258.

- HAYASHI, Zyuro, 1959. Indian rhinoceros 'King of Tama' in Tama zoological park. (In Japanese) *Animals and Zoo*, Tokyo, 11(2): 6-7, 1 fig.
- , 1963. Marriage of the rhinoceros. (In Japanese) *Animals and Zoo*, Tokyo, 15(2): 23, 1 fig.
- HAYES, Charles, 1964. White rhino. *Africana*, 2(1): 6-11, 9 figs.
- HAYMAN, R.W., 1956. The rhinoceros. *Zoo Life*, 11(1): 2-6, 4 figs.
- HAYS, H.R., 1967. Notes on breeding black rhinoceroses, *Diceros bicornis*, at Pittsburgh zoo. *International Zoo Yearbook*, 7: 164-165.
- HAYWOOD, August Hubert Wightwick, 1932. Nigeria: preservation of wild life. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 17: 27-48.
- HAYWOOD, C. Wightwick, 1927. To the mysterious Lorian swamp: an adventurous & arduous journey of exploration through the vast waterless tracts of unknown Jubaland: 5-275. London, Seeley, Service & Co.
- HAZEWINKEL, J.C., 1932. A rhino-hunt in Sumatra. *Java Gazette*, 1(5): i-viii, 10 figs.
- , 1933. Rhinoceros sondaicus in Zuid-Sumatra. *Tropische Natuur*, 22(6): 101-109, 3 figs.
- , 1936. Wild animals of Sumatra. *Java Gazette*, 5(1): i-iv, 7 figs.
- hb., 1970. Elefanten schüttelten Löwen in der Baumkrone. *Tier*, 10(2): 16, figs. 1-2.
- hb., 1971. Gefecht mit Didingas auf Rinder-Raubzug. *Tier*, 11(4): 44.
- H.D., 1968 [Of the rhinoceros.] *Gentleman's magazine*, 38: 208.
- HEATH, MAVIS M., 1973. Rhino-elephant association. *East Africa natural history society, Bulletin*, April 1973: 54.
- HEBER, Reginald, 1843. Narrative of a journey through the upper provinces of India, from Calcutta to Bombay, 1824-1825, (with notes upon Ceylon), an account of a journey to Madras and the southern provinces, 1826, and letters written in India, I: viii, 311. London, John Murray.
- HÉBERT, Michèle, 1969. Le rhinocéros de Dürer et son utilisation pour l'entrée royale d'Henri II à Paris (1549). *Nouvelles de l'estampe*, 1969: 143-147.
- HECK, Ludwig Franz Friedrich George, [1896]. Das Tierreich: allgemeine Einleitung-Säugetiere: iii, 1356. Neudamm, J. Neumann.
- , 1940. Heiter-ernste Erinnerungen an Tiergärtner. *Zoologische Garten*, (N.F.) 12(4/6): 228-238, 4 figs.
- HECK, LUTZ, 1930. Aus der Wildnis in den Zoo: auf Tierfang in Ostafrika: 192. Berlin, Ullstein.
- HEDIGER, Heini, 1938. Ueber Erstimporte. *Ciba-Zeitschrift*, 5(54): 1871-1874, 6 figs.
- , 1949. Exotische Freunde im Zoo: 159. Basel, Friedrich Reinhardt.
- , 1953. Neue exotische Freunde im Zoo: 62. Basel, Friedrich Reinhardt.
- , 1955. Ein seltenes Tiergarten-Ereignis: Geburt und Aufzucht eines Nashorns. *Umschau*, 55(10): 307-308, 3 figs.
- , 1970. Ein Nashorn mit Dürer-Hornlein. *Zoologische Garten*, (N.F.) 39(1/6): 101-106, figs. 1-6.
- , 1977. Zoologische Gärten: gestern - heute - morgen: 108. Bern & Stuttgart, Hallwag.
- HEEREN, Arnold Hermann Ludwig, 1805. Ideen über die Politik, den Verkehr und den Handel, der vornehmsten Völker der alten Welt, II(2), 2nd ed.: 609-995. Göttingen, Vandenhoeck u. Kuprecht.
- HEIKAMP, Detlef, 1980. Seltene Nashörner in Martin Sperlich's Nashorn-galerie und anderswo. Festschrift für Martin Sperlich, Tübingen: 301-325, figs. 1-26.
- HEINICHEN, Irmgard Gudrun, 1967. Karyotype of *Ceratotherium simum simum* and *Equus zebra zebra*: a preliminary note. *Journal of the South African veterinary medical association*, 38(3): 247-248, 1 fig.
- , 1969. Karyological studies on southern African Perissodactyla. *Journal of the South African veterinary medical association*, 40(1): 99-100, figs. 1-2.
- , 1970. Karyological studies on southern African Perissodactyla. *Koedoe*, 13: 51-108, pls. 1-15, fig. 1.
- HEINZ, Rudolf, 1933. Ein vorzeitlicher Tränkplatz in der Namibwüste bei Lüderitzbucht (Deutsch-Südwestafrika), mit Bemerkungen zum Problem des Atlantischen Ozeans. *Mitteilungen der Geographischen Gesellschaft in Hamburg*, 43: 267-302, pls. 19-29.
- HESSIG, Kurt, 1973. Die Unterfamilien und Tribus der rezenten und fossilen Rhinocerotidae (Mammalia). *Säugetierkundliche Mitteilungen*, 21: 25-30.

- HELCK, Hans Wolfgang, 1955. Historische Inschriften Thutmosis' III und Amenophis' II: Urkunden der 18. Dynastie, Heft 17, Berlin, Akademie Verlag.
- HELPER, Johann Wilhelm, 1838. Note on the animal productions of the Tenasserim provinces. *Journal of the Asiatic society of Bengal*, 7(2): 855-863.
- HELLER, Edmund, 1913. The white rhinoceros. *Smithsonian miscellaneous collections*, 61(1): 1-77, pls. 1-31. (Abstract in: *Journal of the Washington academy of science*, 4: 374-375 (1914).)
- HENDERSON, David, 1972. Obongi, the white rhino who fell in love with mankind. *Animals*, 14(7): 302-303, 2 figs.
- HENRI D'ORLÉANS, Prince, 1898. Du Tonkin aux Indes, Janvier 1895-Janvier 1896: I, 442. Paris, Calmann Lévy.
- HEPPES, John B., 1958a. The white rhino. *Uganda wild life and sport*, 1(4): 29-35, 2 figs, 1 map.
- , 1958b. The white rhinoceros in Uganda. *African wildlife*, 12(4): 272-280, 6 figs.
- HEPTNER, Vladimir Georgievich, 1960. Ueber das Java-Nashorn auf Neu-Guinea. *Zeitschrift für Säugetierkunde*, 25: 128-129.
- HERBERT, H.J. & B. AUSTEN, 1972. The past and present distribution of the black and square-lipped rhinoceros in the Wankie national park. *Arnoldia*, 5(26): 1-6, 1 map.
- HERODOTUS of Halicarnassus (5th century B.C.). The Histories, IV, 191.
- HERPORT, Albrecht, 1930. Reise nach Java, Formosa, Vorder-Indien und Ceylon 1659-1668. Neu herausgegeben nach der zu Bern im Verlag von Georg Sonnleitner im Jahre 1669 erschienenen Originalausgabe: xii, 179. Haag, Martinus Nijhoff.
- HEHRMANN, Albert, 1913. Ein alter Seeverkehr zwischen Abessinien und Süd-China bis zum Beginn unserer Zeitrechnung. *Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, 1913: 553-561.
- HESSI, Elias, 1931. Ost-Indische Reise-Beschreibung oder Diarium, was bey der Reise des Churfürst. Sachs. Raths und Berg-Commissarii D. Benjamin Oltzschew im Jahr 1680. von Dresden aus biss in Asiam auff die Insul Sumatra denckwürdiges vorgegangen: x, 195. Haag, Martinus Nijhoff, (1st ed. 1690).
- HEUDE, P.-M., 1892. Etudes odontologiques, première partie: herbivores trizygodontes et dizygodontes. *Mémoires concernant l'histoire naturelle de l'empire chinois*, 2(2): 65-84, pls. 19A, 20, 20A, 20B.
- HEUGLIN, Theodor von, 1861. Forschungen über die Fauna des Rothen Meeres und der Somali-Küste. *Mittheilungen aus Justus Perthes' Geographischer Anstalt*, 1861: 11-32.
- , 1869. Reise in das Gebiet des weissen Nil und seiner westlichen Zuflüsse in den Jahren 1862-1864: xii, 382. Leipzig & Heidelberg, C.F. Winter.
- , 1877. Reise in Nordost-Afrika: Schilderungen aus dem Gebiete der Beni Amer und Habab nebst zoologischen Skizzen und einem Führer für Jagdreisende, II: vii, 304. Braunschweig, Georg Westermann.
- HEURN, Frans Cornelis van, 1928. Reservaat in Atjeh. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 5: 47-56.
- HEYBROEK, J.D., 1926. Een witte rhinoceros door een vrouw gered. *Levende natuur*, 30(4): 128.
- HEYMANS, J.C., & M. COLYN, 1981. Pour une opération de sauvetage du rhinocéros blanc - *Ceratotherium simum cottoni* (Lydekker) - au Parc national de la Garamba (Rép. du Zaïre). *Les naturalistes Belges*, 62(7/8): 157-165, figs. 1-4.
- HEYNSIUS-VIRULY, A. & Frans C. van HEURN, 1935. Overzicht van de uit Nederlandsch-Indië ontvangen gegevens, met biologische aantekeningen omtrent de betreffende diersoorten. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 10 supplement: 25-77, 4 pls. (English translation in: *Special publications of the American committee of international wild life protection*, 8: 24-73 (1936).)
- HICKMAN, Graham C., 1979. An inverted tooth in a white rhinoceros. *Lammergeyer*, 27: 46-47, fig. 1.
- HIEU, H.A. van, 1896. De Javaansche geestenwereld en de betrekking, die tusschen de geesten en de zinnelijke wereld bestraft, verduidelijkt door Petangan's of tellingen, bij de Javanen in gebruik, II: De Tengeran's: vii, 175. Semarang, G.C.T. van Dorp & Co.
- HIERONYMUS, Eusebius (ca. 400). *Expositio interlinearis Libri Job*. In: J.P. Migne,

- Patrologiae cursus completus Latinae, vol. 23.
- HIGGINS, J.C., 1935. The game birds and animals of the Manipur state with notes on their numbers, migration and habits, part VI. *Journal of the Bombay natural history society*, 37: 298-309.
- HIGGINSON, Sarah Jane, 1890. *Java the pearl of the East*: viii, 9-204. Boston & New York, Houghton, Mifflin & Co.
- HILEY, Peter G., 1977. The thermoregulatory response of the rhinoceros (*Diceros bicornis* and *Ceratotherium simum*) and the zebra (*Equus burchelli*) to diurnal temperature change. *East African wildlife journal*, 15(4): 337, fig. 1.
- HILL, Andrew, 1979. Taking the rhino by the horns. *New scientist*, 182: 843-844.
- HILL, Clyde A., 1964. Three species of rhinos. *International zoo news*, 11(1): 15.
- , 1968. Kaziranga. *Zoosnooz*, San Diego, 41(9): 4-8, 6 figs.
- , 1972. San Pasqual - Calif. - USA. *International zoo news*, 19(7/8): 295, 297.
- , 1973a. Third white rhino baby born. *International zoo news*, 20(1): 23.
- , 1973b. Fourth white rhino born. *International zoo news*, 20(2): 52.
- HILL, C.W. Osman, 1958. Abnormal site of horn-growth in *Rhinoceros unicornis* Linn. *Journal of the Bombay natural history society*, 55(3): 553-554, 1 fig.
- HILL, John Eric & T. Donald CARTER, 1941. The mammals of Angola, Africa. *Bulletin of the American museum of natural history*, 78: 1-211, pls. 1-17, figs. 1-36.
- HILLENIUS, Dick (ed.), 1971. Neushoorn. *Spectrum dierenencyclopedie*, 4(61): 1457-1461, 7 figs, 3 maps. (Revised edition of Maurice Burton & Robert Burton (eds.), Purnell's encyclopedia of animal life, 1970.)
- HILLMAN, Kes, 1980a. African rhinoceros. *World Wildlife Fund Yearbook*, 1979-80: 69-75, map on p. 77.
- , 1980b. Action to save Africa's rhinos. *IUCN Bulletin*, (N.S.) 11(1/2): 5-7, 1 fig.
- , 1981. African rhinoceros survey and conservation. *World Wildlife Fund Yearbook*, 1980-81: 309-313.
- & Esmund B. MARTIN, 1979. Will poaching exterminate Kenya's rhinos? *Oryx*, 15(2): 131-132.
- HILZHEIMER, Max, 1926. Säugetierkunde und Archäologie. *Zeitschrift für Säugetierkunde* 1: 140-169, figs. 1-27.
- , 1931. Die Nashorndarstellungen von Kerma. *Zeitschrift für Ägyptische Sprache und Altertumskunde*, 67: 39-42, figs. 1-2.
- , 1935. Hartstoffe von Säugetiere. Part 12, pp. 1436-1531, figs. 700-741 in: Ferdinand Pax & Walther Arndt (eds.), *Die Rohstoffe des Tierreiches*, 1, zweite Hälfte: iv, 869-2235. Berlin, Borntraeger.
- HINDLE, Edward, 1947a. Report on the additions to the Society's menagerie during June, July, August and September 1947. *Proceedings of the Zoological society of London*, 117(4): 792.
- , 1947b. Report on the additions to the Society's menagerie during October 1947. *Proceedings of the Zoological society of London*, 117(4): 794.
- HIRTH, Friedrich, 1885. China and the Roman orient: researches into their ancient and mediaeval relations as represented in old Chinese records: xvii, 330. Leipzig & Munich, Georg Hirth/Shanghai & Hongkong, Kelly & Walsh.
- , 1894. Das weisse Nashorn. *Young Pao*, 5: 392.
- HISLOP, J.A., 1961. The distribution of elephant, rhinoceros, seladang and tapir in Malaya's national park. Pp. 95-99, 1 map in: J. Wyatt-Smith & P.R. Wycherley (eds.), *Nature conservation in Western Malaysia*, 1961: 260. Kuala Lumpur, Malayan nature society.
- , 1966. Rhinoceros and seladang - Malaya's vanishing species. *Oryx*, 8(6): 353-359, 2 maps. (Also published in: *IUCN Publications*, (N.S.) 10: 278-283, 2 maps (1968).)
- HITCHINS, Peter M., 1962. Black rhinoceros *Diceros bicornis* (notes on feeding nos. 25, 26 and 28). *Lammergeyer*, 2(1): 66.
- , 1968a. Some preliminary findings on the population structure and status of the black rhinoceros *Diceros bicornis* in the Hluhluwe game reserve, Zululand. *Lammergeyer*, 9: 26-28.
- , 1968b. Liveweights of some mammals from Hluhluwe game reserve, Zululand.

- Lammergeyer, 9: 42.
- , 1969. Influence of vegetation types on sizes of home ranges of black rhinoceros in Hluhluwe game reserve, Zululand. *Lammergeyer*, 10: 81-86, pls. 1-2, figs. 1-2.
- , 1970. Field criteria for ageing immature black rhinoceroses *Diceros bicornis* L. *Lammergeyer*, 12: 48-55, pls. 1-5.
- , 1971. Preliminary findings in a radio telemetric study on the black rhinoceros in Hluhluwe game reserve, Zululand. *S57, Symposium on biotelemetry, Pretoria 1971*: i-ii, 1-15, 95-100, figs. 1-10.
- , 1975. The black rhinoceros in South Africa. *Endangered wildlife* (Endangered wildlife Trust), 1(2): i-ii, 2 figs, 1 map.
- , 1978. Age determination of the black rhinoceros (*Diceros bicornis* Linn.) in Zululand. *South African journal of wildlife research*, 8(2): 71-80, figs. 1-7.
- & Michael E. KLEP, 1970. Observations on skin lesions of the black rhinoceros (*Diceros bicornis* Linn.) in the Hluhluwe game reserve, Zululand. *Lammergeyer*, 12: 56-65, pls. 1-6, figs. 1-2.
- , — & K. ROCHAT, 1972. The capture of the black rhinoceros in Hluhluwe game reserve and their translocation to the Kruger national park. *Lammergeyer*, 17: 18-30, figs. 1-3.
- HO-VAN-CAM JR., 1947. Big game in Viet-Nam. *Nguoi San-ban Dong-duong (Le chasseur indochinois)*, 1 Oct. 1947: 33-34.
- HOARE, Cecil Arthur, 1937. A new cycloposthiid ciliate (*Triplumaria hamertoni* gen. n., sp. n.) parasitic in the Indian rhinoceros. *Parasitology*, 29: 559-569, pl. 23, fig. 1.
- HOBLEY, Charles William, 1912. The rhino and its curious diet. *Journal of the East Africa and Uganda natural history society*, 2(4): 133.
- , 1922. The fauna of East Africa and its future. *Proceedings of the Zoological society of London*, 1922: 1-15.
- , 1926. The Zululand game reserves: a summary of the position and some suggestions. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 6: 42-48.
- , 1931. The rhinoceros. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 14: 18-23.
- , 1932. The rhinoceros. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 17: 20-21.
- HODGSON, Brian Houghton, 1825. Remarks on the procreation of the rhinoceros. *Oriental magazine*, 3(5): 155-156.
- , 1826a. Remarks on the rate of growth and habits of the rhinoceros *Indicus*, communicated with notes by Dr. Abel. *Asiatic Journal*, 22: 193-197.
- , 1826b. Ueber die Trächtigkeit des Rhinoceros. *Notizen aus dem Gebiete der Natur- und Heilkunde*, 14(290): 55-56.
- , 1826c. Ueber das von hrn. Hodgson zu Nepal beobachtete junge Rhinoceros. *Notizen aus dem Gebiete der Natur- und Heilkunde*, 15(325): 264.
- , 1826d. Remarques sur la portée du rhinocéros. *Bulletin des sciences naturelles et de géologie*, 2e section, 7: 436-437.
- , 1834. On the mammals of Nepal. *Proceedings of the Zoological society of London*, 1834: 95-104. (Reprinted in: *London & Edinburgh philosophical journal & journal of science*, 6: 150-151 (1835).)
- , 1844. Classified catalogue of mammals of Nepal, (corrected to end of 1841, first printed in 1832). *Calcutta journal of natural history*, 4: 284-294.
- HÖHNEL, Ludwig Ritter von, 1892. Zum Rudolph-See und Stephanie-See: die Forschungsreise des Grafen Samuel Teleki in Ost-Aequatorial-Afrika 1887-1888: xviii, 877. Wien, Alfred Hölder.
- HÖSLI, P. & Ernst M. LANG, 1970. Zum Chromosomenbild des Indischen Panzernashorns (*Rhinoceros unicornis*). *Schweizer Archiv für Tierheilkunde*, 112: 534-535, figs. 1-2.
- HOËVELL, Wolter Robert van, 1860. Uit het Indische leven: v, 270. Zaltbommel, Joh. Noman en zoon.
- HOEVEN, Jan van der, 1855. Handboek der dierkunde, 2nd ed., II: xxviii, 1068. Amsterdam, J.C.A. Sulpke. (1st ed. 1833).
- HOFFMANN, Johann Christian, 1931. Reise nach dem Kaplande, nach Mauritius und nach

- Java 1671-1676. Neu herausgegeben nach der zu Cassel im Verlag von Johann Friedrich Hertzog im Jahre 1680 erschienene Original-Ausgabe: xiii, 104. Haag, Martinus Nijhoff.
- HOFLAND, P.W., 1846. De rhinoceros-hoorn. *Tijdschrift voor Nederlands Indië*, 8(4): 110-111.
- HOFMEYER, J.M., 1975. The adaptation of wild animals translocated to new areas in South West Africa. Pp. 126-131, fig. 1 in: R.L. Reid (ed.), *Proceedings of the Third World conference on animal production*, Sydney, Sydney university press.
- & J.R. DE BRUINE, 1973. The problems associated with the capture, translocation and keeping of wild ungulates in South West Africa. *Limnology*, 18: 21-29, figs. 1-2.
- H. EMEDES, R.E.M. FRYER & J.R. DE BRUINE, 1975. The capture and translocation of the black rhinoceros *Diceros bicornis* Linn. in South West Africa. *Madoqua*, 9(2): 35-44, pls. 1-3 map 1.
- HOLL, M., 1900. Ueber die Insel des Ungulatenhirns. *Archiv für Anatomie und Entwicklungsgeschichte*, abt. Anatomie, 1900: 295-334, pls. 18-20.
- HOLLISTER, Ned., 1924. East African mammals in the United States national museum, part III: Primates, artiodactyla, perissodactyla, proboscidea, and hyracoidea. *Bulletin of the United States national museum*, 99: i-viii, 1-151, pls. 1-57.
- HORNE, Everard, 1821. An account of the skeletons of the dugong, two-horned rhinoceros, and tapir of Sumatra, sent to England by Sir Thomas Stamford Raffles, governor of Bencool. *Philosophical transactions of the Royal Society of London*, 1821(1): 268-275, pls. 20-24.
- , 1822. On a new species of rhinoceros found in the interior of Africa, the skull of which bears a close resemblance to that found in a fossil state in Siberia and other countries. *Philosophical transactions of the Royal Society of London*, 1822(1): 38-45, pls. 2-3.
- , 1823. Lectures on comparative anatomy; in which are explained the preparations in the Hunterian collection, IV: (unpaginated). London, Longman, Hurst, Rees, Orme and Brown.
- , 1824. Berigten en bedenkingen betreffende eene eerst voor weinige jaren ontdekte soort van rhinoceros. *Letterkundig magazijn van wetenschap, kunst en smaak*, 1824(2): 381-385. (Abstract in: *Bulletin des sciences naturelles et de géologie*, 2e section, 3: 225 (1824).) (Name of author as Everard Horne).
- HOMMEL, Fritz, 1879. Die Namen der Säugethiere bei den südsemitischen Völkern als Beiträge zur arabischen und äthiopischen Lexicographie, zur semitischen Kulturforschung und Sprachvergleichung und zur Geschichte der Mittelmeerfauna: xx, 472. Leipzig, J.C. Hinricks.
- HONOUR, Hugh, 1975. The European vision of America: a special exhibition to honor the bicentennial of the United States organized by the Cleveland museum of art ...: x, 389. Cleveland, Cleveland museum of art.
- HOOD, F.H., 1869. The Sumatran rhinoceros. *Oriental sporting magazine*, 2(15): 167-169, 1 pl.
- HOOF, J.A.R.A.M., 1978. Onderzoek aan orang-otans en Sumatraanse neushoorns in het Gunung-Leuserreservaat. *Panda*, 14(9): 116-120, 8 figs.
- HOOGWERF, Andries, 1936. Het wildreservaat Zuid-Sumatra I. *Natuurbescherming in Indië gedurende het jaar 1935, verslag van de Nederlandsch Indische vereeniging tot natuurbescherming*, 11: 159-162, fig. 26.
- , 1937. Bij de badaks en bantengs in het wildreservaat Oedjoeng Koelon. Pp. 74-82, figs. 1-8 in: C.G.G.J. van Steenis (ed.), *Album van natuurmonumenten in Nederlandsch-Indië*, Album serie II. Buitenzorg, Nederlandsch-Indische vereeniging tot natuurbescherming.
- , 1938. Honderd uren de "ongezijne" gast der bantengs in Oedjoeng Koelon (III). *Tropische Natuur*, 27(5): 77-86.
- , 1939a. Wildreservaat Oedjoeng-Koelon: de wildstand in Java's schoonste natuurpark. *Drie jaren Indisch natuurleven, verslag van de Nederlandsch Indische vereeniging tot natuurbescherming*, 11: 172-213, figs. 34-52.
- , 1939b. Bergen, bosschen en blangs in de Gajo- en Alaslanden: een tocht door de Gajo- en Alaslanden en iets over het Loëser-reservaat. *Drie jaren Indisch natuurleven, verslag van de Nederlandsch Indische vereeniging tot natuurbescherming*, 11: 242-288, figs. 81-94, 1 map.
- , 1946. Jacht en natuurbescherming op Java gedurende de Japansche bezetting. *Natuurwetenschappelijk tijdschrift voor Nederlandsch-Indië*, 102: 205-208.
- , 1949. Ontmoetingen met Javaanse neushoorns in het natuurpark Oedjoeng-Koelon

- (West-Java). In het voetspoor van Thijssse: 359-370, figs. 1-9. Wageningen, H. Veenman & zonen.
- , 1950. 8e Verslag van toernée's naar het wildreservaat Ujung-Kulon (21 november – 9 december 1950), 30ste dienstraft. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 14: 7-93, 1 map.
- , 1952. Over de uitwerpselen van *Rhinoceros sondaicus* Desm. in het natuurpark Ujung Kulon op Java. *Madjalah ilmu alam untuk Indonesia*, 108 (1/2): 38-44, figs. 1-5.
- , 1954. Nature protection in Indonesia. *Oryx*, 2(4): 220-227, 2 figs.
- , 1970. Ujung Kulon, the land of the last Javan rhinoceros, with local and general data on the most important faunal species and their preservation in Indonesia: xiii, 512. Leiden, E.J. Brill.
- & C.G.G.J. van STEENIS, 1936. Berichtgeving omtrent natuurbescherming in 1935. *Natuurbescherming in Indië gedurende het jaar 1935, verslag van de Nederlandsch Indische vereniging tot natuurbescherming*, 10: 24-104, figs. 1-5.
- HOOPER, David, 1910. *Materia medica animalium indica*. *Journal & Proceedings of the Asiatic society of Bengal*, (N.S.) 6(10): 507-522.
- HOOPER, Dirk Albert, 1945. Over subfossiele neushoorns van Sumatra en Borneo. *Verhandelingen van het geologisch-mijnbouwkundig genootschap voor Nederland en koloniën geologische serie*, 14: 249-258, fig. 1.
- , 1946a. Prehistoric and fossil rhinoceroses from the Malay archipelago and India. *Zoologische mededelingen*, Leiden, 26: 1-138, pls. 1-10. (Also separately as Thesis, University of Leiden, Leiden, E.J. Brill, 1946).
- , 1946b. The evolution of the skeleton of *Rhinoceros sondaicus* Desmarest. *Proceedings of the Nederlandse Akademie van wetenschappen*, 49(6): 671-676, figs. 1-2.
- , 1948. *Rhinoceros sondaicus* Desmarest from kitchen-middens of Bindjai Tamiang, North Sumatra. *Geologie en mijnbouw*, (N.S.) 10: 116-117, fig. 1.
- , 1949. Mammalian evolution in the quaternary of southern and eastern Asia. *Evolution*, 3: 125-128.
- , 1959a. Faked rhinoceros horns. *Bijdragen tot de taal-, land- en volkenkunde*, 115: 56-57, figs. 1-2.
- , 1959b. Cornes de rhinocéros truquées. *Mammalia*, 23(3): 316-317, pl. 11.
- , 1962a. Report upon a collection of pleistocene mammals from tin-bearing deposits in a limestone cave near Ipoh, Kinta valley, Perak. *Federation museum journal*, (N.S.) 7: 1-5.
- , 1962b. *Rhinoceros sondaicus* Desmarest from the Hoabinhian of Gua Cha rock shelter, Kelantan. *Federation museum journal*, (N.S.) 7: 23-24.
- , 1967. Comment on the proposed ruling on the validity of *Didermoceros* Brookes, 1828. *Bulletin of zoological nomenclature*, 24(4): 202.
- , 1969. Pleistocene East African rhinoceroses. Pp. 71-98, pls. 1-6 in: J.S.B. Leakey (ed.). *Fossil vertebrates of Africa*, 1: ix, 102. New York/London, Academic press.
- , 1972. A late pliocene rhinoceros from Langebaanweg, Cape province. *Annals of the South African museum*, 59(9): 151-191, pls. 21-34.
- , 1973. Additional miocene to pleistocene rhinoceroses of Africa. *Zoologische mededelingen*, Leiden, 46(11): 149-178, pls. 1-2.
- , 1974. 'Namaak' neushoornhoorns. *Museologia*, 2(v): 10-13, figs. 1-7.
- , 1976. Phylogeny of the Rhinocerotids of Africa. *Annals of the South African museum*, 71: 167-168.
- & Bryan PATTERSON, 1972. Rhinoceroses from the pliocene of northwestern Kenya. *Bulletin of the Museum of comparative zoology at Harvard college*, 144(1): 1-26, figs. 1-11.
- & Ronald SINGER, 1960. Fossil rhinoceroses from Hopefield, South Africa. *Zoologische mededelingen*, Leiden, 37(8): 113-128, pl. 11.
- HOPKINS, Lionel Charles, 1939. The rescue of the Chinese rhinoceros. *Journal of the Royal Asiatic Society*, April 1939: 253-260, figs. 1-10.
- HOPWOOD, Arthur Tindell, 1938. [No title.] *Proceedings of the Linnean society of London*, 150(1): 49.
- , 1939. Contributions to the study of some African mammals – II: The subspecies of the black rhinoceros, *Diceros bicornis* (Linnaeus), defined by the proportions of the skull.

- Journal of the Linnean society of London, Zoology*, 40: 447-457, pls. 10-11.
- HORATIUS FLACCUS, Quintus (65-8 BC). *Satirarum*, 1.5.
- HORNADAY, William Temple, 1885. Two years in the jungle: the experiences of a hunter and naturalist in India, Ceylon, the Malay peninsula and Borneo: xxii, 512. London, Kegan Paul, Trench & Co.
- , 1924. Threatened quick extinction of the white rhinoceros. *Zoological society bulletin*, New York, 27(1): 12-13, 15.
- HORSFIELD, Thomas, 1824. *Zoological researches in Java, and the neighbouring islands*: (unpaginated). London, Kingsbury, Parbury & Allen.
- , 1851. A catalogue of the mammalia in the Museum of the Hon. East India company: vi, 212. London, J. & H. Cox.
- HOSE, Charles, 1893. A descriptive account of the mammals of Borneo: 78. London, Edward Abbott.
- , 1926. *Natural man: a record from Borneo*: xvi, 284. London, MacMillan.
- & William McDougall, 1966. The pagan tribes of Borneo, with an appendix by A.C. Haddon, 1: xv, 283. London, Frank Cass & Co. (1st impression 1912).
- HOULTUYN, Martinus, 1761. *Natuurlyke historie of uitvoerige beschryving der dieren, planten en mineralen, volgens het samenstel van den Heer Linnæus, met naauwkeurige afbeeldingen*. Eerste deel, tweede stuk: vervolg der zoogende dieren: vi, 504. Amsterdam, F. Houttuyn.
- HOUTZAGER, H.L., 1979. Dieren in Delft. *Tijdschrift voor de geschiedenis der geneeskunde, natuurwetenschappen, wiskunde en techniek*, 2(2): 52-61, 1 fig.
- HOWARD, D.A., 1964. The copper content of the liver of some game animals in Kenya. *East African wildlife journal*, 2: 47-50.
- HOWES, C.A. & M. BAMBER, 1970. Rarities in a museum. *Oryx*, 10(5): 326-328.
- HUBBACK, Theodore Rathbone, 1926. Conservation of Malayan fauna. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 6: 35-41.
- , 1933. Note on the Ashoka tree. *Journal of the Bombay natural history society*, 36(4): 1023.
- , 1939a. The two-horned Asiatic rhinoceros (*Dicerorhinus sumatrensis*). *Journal of the Bombay natural history society*, 40(4): 594-617, pls. 1-8.
- , 1939b. The Asiatic two-horned rhinoceros. *Journal of mammalogy*, 20(1): 1-20, figs. 1-5.
- , 1939c. Annual report on game preservation in Burma for the year ended 31st March 1938 (review). *Journal of the Bombay natural history society*, 41(1): 161-163.
- HUBBARD, Wynant Davis, 1923. Big game in Rhodesia. *Journal of mammalogy*, 4: 228-230.
- HUBRICK, Johannes Fridericus, 1660. De monocerote seu unicorna, sub praesidio M. Georgi Casp. Kirchmaieri... ad diem XVIII. Aprilis. MDCLX: xx. Wittebergae, Michael. Wendt.
- HUET, Nicolas, 1808. *Collection de mammifères du Muséum d'histoire naturelle, classée suivant la méthode de M. Cuvier... dessinée d'après nature. Accompagnée d'un texte descriptif et d'un tableau des ordres, des familles et des caractères appartenant à chacune d'elles*: i, 60. Paris, Treuttel et Wurtz & Arthus Bertrand.
- HUFNAGEL, Ed., 1873. Rhinoceros in Europa ausgestellt. *Zoologische Garten*, (A.F.) 14(5): 197-198.
- HUGHES, J.E., 1933. *Eighteen years on Lake Bangweulu*: xvi, 376. London, Field.
- HUNGERFORD, David A., Robert L. SNYDER & Sharat CHANDRA, 1967. Somatic chromosomes of a black rhinoceros (*Diceros bicornis* Gray 1821). *American naturalist*, 101: 357-358, fig. 1.
- HUNTER, John Alexander, 1953. *Chasseur dans la création ('Hunter')*. Traduit de l'anglais par Michel Bourdet-Piéville: 237. Paris, Amiot, Dumont.
- HUTCHINSON, G.E. & S. Dillon RIPLEY, 1954. Gene dispersal and the ethology of the Rhinocerotidae. *Evolution*, 8(2): 178-179.
- HJLMANS VAN ANROOIJ, H.A., 1885. Nota omtrent het rijk van Siak. *Tijdschrift voor Indische taal- land- en volkenkunde*, 30: 259-390.
- ILLIGER, Carl, 1811. *Prodromus systematis mammalium et avium additis terminis zoogeographicis utriusque classis, eorumque versione germanica*: xviii, 302. Berolini, C. Salfeld.

- IMBERT, Henri, 1921. Les rhinocéros de la Chine et de l'Indochine d'après des anciens textes. *Revue indochinoise*, 35(3/4): 217-230, 1 fig.
- IMHOFF, Gustaaf Willem van, 1888. [Notes.] Pp. 479, 598 in: J.A. van der Chijs (ed.), *Nederlandsch-Indisch plakaatboek, 1602-1811, V (1743-1750)*. Batavia.
- IMHOOF-BLUMER, Friedrich & Otto KELLER, 1889. Tier-und Pflanzenbilder auf Münzen und Gemmen des klassischen Altertums: x, 168. Leipzig. B.G. Teubner.
- INGLES, Jean M. & Frederick C. SAWYER, 1979. A catalogue of the Richard Owen collection of palaeontological and zoological drawings in the British Museum (Natural History). *Bulletin of the British museum (natural history), historical series*, 6(5): 109-197.
- INGLIS, Charles M., W.L. TRAYERS, H.V. O'DONEL & E.O. SHEPHEARE, 1919. A tentative list of the vertebrates of the Jalpaiguri district, Bengal. *Journal of the Bombay natural history society*, 26(3): 819-825, pl. 1.
- INGLIS, J. (signed: Maori), 1878. Sport and work on the Nepaul frontier or twelve years sporting reminiscences of an Indigo planter: xv, 361. London, MacMillan & Co.
- INHOLDER, Ernst, 1955. Zur Psychologie einiger Verhaltensweisen - besonders des Spiels - von Zootieren. *Zeitschrift für Tierpsychologie*, 12: 88-144, figs. 1-32.
- IONESCO, Eugène, 1959. Rhinocéros: pièce en trois actes et quatre tableaux: 247. Paris, Gallimard (Collection Folio, 100).
- IONIDES, C.J.P., 1953a. Nature notes (1). *African wildlife*, 7(2): 127-135, 7 figs, 2 maps.
- , 1953b. Southern Sudan treks. *Sudan wildlife and sport*, 3(1): 15-18.
- ISIDORUS, Hispanensis episcopus (d. 636), 1911. Etymologiarum sive originum libri XX. Recognovit brevique adnotatione critica instruxit W.M. Lindsay, II. Oxonii, Oxford university press.
- I.U.C.N., 1971. End sought on rhino captures in Nepal. *IUCN-Bulletin*, 2(18): 157.
- , 1980. Rhinos are no dodos - yet. *IUCN-Bulletin*, (N.S.) 11(1/2): 4.
- IUVENALIS (ca. 120). *Satira*, VII, 130.
- IVERSEN, Erik, 1961. The myth of Egypt and its hieroglyphs in European tradition: 178. Copenhagen, Gec Gad.
- JACKSON, F.J., 1894. The rhinoceros. Pp. 251-268 in: Clive Phillippis-Wolley (ed.), *Big game shooting*, I: xvi, 453. London, Longmans, Green & Co.
- JACKSON, Peter F.R., 1972. Black rhinos moved 600 miles to sanctuary in Rhodesia. *Biological conservation*, 4(3): 226-227, fig. 1.
- JACOBÆUS, Oligerus, 1696. *Museum regium seu catalogus rerum tam naturalium quam artificialium, quae in basilica bibliothecae Augustissimi Daniae Norvegiae; monarchae Christiani Quinti Hafniae asservantur*: xvii, 201, v. Hafniae, Joachim Schmetgen.
- , 1910. *Rejsebog (1671-1692)*. Med understøttelse af den grevelige hjemstierne-rosencroneske stiftelse udgivet efter originalhaandskriftet af Vilhelm Maar: I, xv, 186. København, Gyldendalske.
- JACOB, Ernst Frederik, 1957a. Recuperative power of the horn of the black rhinoceros (*Rhinoceros bicornis* L.). *Zoologische Garten*, (N.F.) 23(1/3): 223-227, figs. 1-6.
- , 1957b. De neushoorn-neushoorn. *Artis*, Amsterdam, 2(6): 184-189, 7 figs.
- , 1959. Neushoornkennismaking. *Artis*, Amsterdam, 4(6): 184-191, 11 figs.
- , 1961. De Indische neushoorn. *Artis*, Amsterdam, 6(5): 148-151, 3 figs.
- , 1970. Natuurbescherming in Zuid-Afrika. *Artis*, Amsterdam, 16(1): 24-29, 6 figs. and 16(2): 40-47, 11 figs.
- JACQUEMONT, Victor, 1841. Voyage dans l'Inde pendant les années 1828 à 1832: Journal, I: 3, iii, 526. Paris, Firmin Didot frères.
- JAGOR, Fedor, 1866. Singapore - Malacca - Java: Reiseskizzen: vi, 252. Berlin, Julius Springer.
- JAHN, Ilse, 1970. *Theatrum Naturae - ein handgemaltes Tierbuch der Renaissancezeit in der Bibliothek des zoologischen Museums. Wissenschaftliche Zeitschrift der Humboldt-Universität, Mathematisch-Naturwissenschaftliche Reihe*, 19(2/3): 183-186, pls. 1-3, figs. 1-6.
- JAMBRACH, William, 1875. On a new species of Indian rhinoceros: iii. (no place). (One copy known, in the Bibliothèque centrale of the Muséum national d'histoire naturelle in Paris.)

- JARDINE, William, 1836. The naturalist's library, V: Pachydermes: xvi, 248. Edinburgh, W.H. Lizars/London, S. Highley/Dublin, W. Curry jun. & Co.
- JARRY, Madeleine, 1959. Les Indes: série triomphale de l'exotisme. *Connaissance des arts*, Paris, 87: 62-69, 20 figs.
- JARVIS, Caroline, 1966. Zoos in China. *Animals*, 8(17): 450-455, 11 figs.
- , 1967. Tabulated data on the breeding biology of the black rhinoceros, *Diceros bicornis*, compiled from reports in the Yearbook. *International Zoo Yearbook*, 7: 166.
- JAYASINGHE, J.B. & Viranjani SILVA, 1972. Electrocardiographic study on the African black rhinoceros. *British veterinary journal*, 128: lxx-lxx, fig. 1.
- JEANNIN, Albert, 1930. Notes sur les mammifères du Cameroun. *Revue d'histoire naturelle (première partie, A: Mammalogie)*, 11: 161-165.
- , 1936. Les mammifères sauvages du Cameroun: i, iii, 255. Paris, Paul Lechevalier.
- , 1945. Les bêtes de chasse de l'Afrique française: iv, 235. Paris, Payot.
- , 1951. La faune africaine: biologie - histoire - folklore - chasse: 3-243. Paris, Payot.
- , 1962. Le rhinocéros dans l'histoire naturelle d'autrefois. *Vie des bêtes*, 51: 25-27, 4 figs.
- JEFFREYS, H., 1933. Elephants and rhinos. *Field*, 162: 379.
- JENKINS, D.V., 1971. Animal life of Kinabalu national park. *Malayan nature journal*, 24(3/4): 177-183, pls. 59-60, figs. 1-5.
- JENKINS, Peter, 1971. Wanted: a herd of white rhino. *Africana*, 4(7): 27, 2 figs.
- JENNISON, George, 1937. Animals for show and pleasure in ancient Rome: 209. Manchester, Manchester university press.
- JENTINK, Fredericus Anna, 1881. Aanteekeningen, bij B. Hagen, "Voorloopige mededeelingen over de fauna van Oost-Sumatra" (vertaald uit Das Ausland). *Aardrijkskundig weekblad*, 2 (44-45): 273-288, 289-293.
- , 1884. De olifant en de rhinoceros op Borneo. *Tijdschrift van het Nederlandsch aardrijkskundig genootschap*, (2) 1: 554-559.
- , 1887. Catalogue ostéologique des mammifères. *Muséum d'histoire naturelle des Pays-Bas*, 9: i-iii, 1-360, pls. 1-12.
- , 1889. On a collection of mammals from East-Sumatra. *Notes from the Leyden museum*, 11: 17-30.
- , 1890. On Rhinoceros simus, Burchell in the Leyden museum. *Notes from the Leyden museum*, 12: 241-245.
- , 1892. Catalogue systématique des mammifères (singes, carnivores, ruminants, pachydermes, sirènes et cétacés). *Muséum d'histoire naturelle des Pays-Bas*, 11: 1-219.
- , 1895. On the rhinoceroses from the East-Indian-Archipelago. *Notes from the Leyden museum*, 16: 231-233.
- , 1897. Zoological results of the Dutch scientific expedition to Central Borneo: the mammals. *Notes from the Leyden museum*, 19: 26-66, pls. 2-3.
- JENYNS, Roger Soame, 1953. Oriental antiquities from the Sloane collection in the British Museum. *British Museum Quarterly*, 18: 18-20.
- , 1955. The Chinese rhinoceros and Chinese carvings in rhinoceros horns. *Transactions of the Oriental ceramic society*, 29: 31-62, pls. 15-26.
- JERDON, Thomas Caverhill, 1867. The mammals of India; a natural history of all the animals known to inhabit continental India: 7, xxi, 319, xv. Roorkee, Thomasen college press.
- JORBERT, A.J., 1955. Le rhinocéros noir. *Zooleo*, (N.S.) 31: 50-60, 7 figs.
- JOHNSON, George Lindsay, 1901. Contributions to the comparative anatomy of the mammalian eye, chiefly based on ophthalmoscopic examination. *Philosophical transactions of the Royal Society of London*, series B, 194: 1-82, pls. 1-30.
- JOHNSTON, Harry Hamilton, 1882. Report on the natural history of Mossamêdes and district, and of south-western Africa generally; with reference to the proposed expedition to the east of Mayo: 13. London, William Clowes and sons.
- , 1886. The Kilima-Njaro expedition: a record of scientific exploration in Eastern equatorial Africa, and a general description of the natural history, languages, and commerce of the Kilima-njaro district: xv, 572. London, Kegan Paul, Trench & Co.
- , 1902. The Uganda protectorate, I: xx, 470. London, Hutchinson & Co.
- , 1906a. British Central Africa, an attempt to give some account of a portion of the

- territories under British influence north of the Zambesi, 3rd ed.: xix, 544. London, Methuen & Co. (1st ed. 1897).
- , 1906b. Liberia, II: xvi, 521-1183. London, Hutchinson.
- , 1908. George Grenfell and the Congo: a history and description of the Congo independent state and adjoining districts of Congoland together with some account of the native peoples and their languages, the fauna and flora; and similar notes on the Cameroons and the islands of Fernando Pó, I: xxiii, 496; II: xx, 497-990. London, Hutchinson & Co.
- JOLEAUD, Léonce, 1931. Etudes de géographie zoologique sur la Berberie. Les Périssodactyles, I: Les rhinocéros. *Archivio zoologico italiano*, 16 (1-2): 680-686.
- JONES, D.M., 1979. The husbandry and veterinary care of captive rhinoceroses. *International Zoo Yearbook*, 19: 239-252.
- & L.R. THOMSETT, 1972. A short review of the diseases of rhinoceros skin with case reports on an exudative dermatitis of the white rhinoceros (*Ceratotherium simum*). *Verhandlungsberichte des XIV. Internationalen Symposiums über die Erkrankungen der Zoofiere*, Berlin: 227-231.
- JONES, Marvin, 1977. De 'Zoological Society of San Diego'. *Zoo*, Anvers, 42(4): 124-129, 7 figs.
- JONES, R.D., 1966. A comparison between morphine and M99 as narcotics for the immobilisation of the black rhinoceros (*Diceros bicornis*). *M-series, veterinary applications report*, 46: i-xv. Hull, Reckitt and sons.
- JONGEJANS, J., 1922. Ons mooi Indie. Uit Dajakland: kijkjes in het leven van den koppensneller en zijne omgeving: 290. Amsterdam, J.M. Meulenhoff.
- JONSTON, Johannes, 1632. Thaumaturgraphia naturalis, in decem classes distincta, in quibus admiranda I. Coelis II. Elementorum III. Meteorum IV. Fossilium V. Plantarum VI. Avium VII. Quadrupedum VIII. Exanguium IX. Piscium X. Hominis: xii, 504. Amstelodami, Gulielmum Blaeu.
- , 1655. *Historiae naturalis de quadrupedibus libri*: 235. Francofurti ad Moenum, haeredum Math. Meriani.
- , 1660. Naukeurige beschrijving van de natuur der vier-voetige dieren, vissen en bloedlooze water-dieren, vogelen, kronkel-dieren, slangen en draken. Uyt 'et Latijn vertaelt door M. Grauius. Amsterdam, I.T. Schipper.
- JORDAN, E. Knowles, 1959. Notes on the distribution of game in Northern Rhodesia, 1904-13 (annotated by W.F.H. Ansell). *Northern Rhodesia journal*, 4: 139-146.
- JORDANUS, Catelanus, bishop of Columbus, 1863. The wonders of the East, by Friar Jordanus, of the order of preachers and bishop of Columbum in India the greater (circa 1330). Translated from the Latin original, as published at Paris in 1839, in the *Recueil de voyages et de mémoires*, of the Society of geography, with the addition of a commentary by Colonel Henry Yule: I, viii, iii-xvii, 68. London, Hakluyt Society.
- JOUBERT, Eugene, 1970. The taxonomic status of the black rhinoceros (*Diceros bicornis* Linn. 1758) in South West Africa. *Madoqua*, (series 1) 2: 27-37, pl. 1, figs. 1-2.
- , 1971. The past and present distribution and status of the black rhinoceros (*Diceros bicornis* Linn. 1758) in South West Africa. *Madoqua*, (series 1) 4: 33-43, 3 maps.
- & F.C. ELOFF, 1971. Notes on the ecology and behaviour of the black rhinoceros *Diceros bicornis* Linn. 1758 in South West Africa. *Madoqua*, (series 1) 3: 5-53, pls. 1-24, figs. 1-10, 1 map.
- JOVIN, H., 1889. *Inventaire général des richesses d'art de la France*: Paris, Monuments civils, II: i, 428. Paris, Plon.
- JOVIUS, Paulus, 1555. *Dialogo dell'Imprese militari et amorose*: vii, 146, ix. Roma, Antonia Barre. (English translation: The worthy tract of Paulus Iovius, containing a discourse of rare inventions, both militarie and amorous called Imprese, by Samuel Daniell. London, Simon Waterson, 1585.)
- , 1571. *Elogia virorum bellica virtute illustrium, veris imaginibus supposita, quae apud Musaeum spectantur, in libros septem digesta*: 592, xiv. Basileae.
- JUNGHUHN, Franz Wilhelm, 1847. Die Battaländer auf Sumatra: im Auftrage Sr. Excellenz des General-Gouverneurs von Niederländisch-Indien Hrn. P. Merkus in den Jahren 1840 und 1841 untersucht und beschrieben, I: Chorographie: vii, 300. Berlin, G. Reimer.

- , 1858. Toestand der aangekweekte kinaboomen op het eiland Java tijdens het bezoek van zijne excellentie de gouverneur generaal CH. F. Pahud, in het laatst der maand Julij en het begin 1857. *Natuurkundig tijdschrift voor Nederlandsch-Indië*, (4) 15 (1): 23-138.
- , 1866. Licht- en schaduwbeelden uit de binnenlanden van Java, 4th ed.: iv, 412. Amsterdam, F. Günst.
- KAKATI, B.N. & C.K. RAJCONWAR, 1972. Some observations on the reproductive behaviour of *Rhinoceros unicornis*. *Indian Forester*, 98: 357-358, 1 pl.
- KAL, (?), 1910. Het schiereiland Djoengkoelon. *Tijdschrift binnenlands bestuur*, 39: 136-140.
- KAMEI, Issei, 1970. Birth of a black rhinoceros (Japanese, English summary). *Animals and zoo*, Tokyo, 22(3): 78-81, figs. 1-4.
- KAMPEN, Pieter Nicolaas van, 1905. Die Tympanalgegend des Säugetierschädels. *Morphologisches Jahrbuch*, 34(3/4): 321-722, figs. 1-96.
- , 1911. The zoogeography of the East Indian archipelago (translated by Thomas Barbour). *American Naturalist*, 45: 537-560, 3 maps. (Original in: *Natuurkundig tijdschrift voor Nederlandsch Indië*, bijblad 3-4, 1909.)
- KANDT, Richard, 1905. Caput Nili: eine empfindsame Reise zu den Quellen des Nils, 2nd ed.: xvi, 538. Berlin, Dietrich Reimer.
- KASSAM, A.A.H. & B.L. LASLEY, 1981. Estrogen excretory patterns in the Indian rhinoceros (*Rhinoceros unicornis*), determined by simplified urinary analysis. *American journal of veterinary research*, 42(2): 251-255, figs. 1-5.
- KAUP, Johann Jakob, 1833. Das Thierreich in seinen Hauptformen systematisch beschrieben, I: Naturgeschichte der Menschen und der Säugetiere; i, xxxv, 454. Darmstadt, Johann Philipp Diehl.
- KEARNEY, Yvonne & Joan VYVYAN, 1965. Rufus the rhino: 3-158. London, Collins.
- KEEP, Michael E., 1968a. Timely veterinary aid. *Lammergeyer*, 9: 43-44.
- , 1968b. Report upon the immobilization of white rhinoceros (*Ceratotherium simum simum*) using Fentanyl (R4263) (Janssen Pharmaceutica, Beerse Belgium). Unpublished report, Natal parks board, typed: i-iv.
- , 1969. Veterinary aid. *Lammergeyer*, 10: 100.
- , 1970. A check list of the blood parasites recorded from the larger wild mammals in Zululand. *Lammergeyer*, 11: 54-57.
- , 1971a. Observable criteria for assessing the physical condition of the white rhinoceros *Ceratotherium simum* in the field. *Lammergeyer*, 13: 25-28, figs. 1-5.
- , 1971b. Etorphine hydrochloride antagonists used in the capture of the white rhinoceros *Ceratotherium simum simum*. *Lammergeyer*, 13: 60-68.
- , 1972. The use of 'Rompun' (VA 1470) Bayer on the white rhinoceros. *Lammergeyer*, 17: 31-35.
- , 1973a. The problems associated with the capture and translocation of the black rhinoceros in Zululand, Republic of South Africa. *Lammergeyer*, 18: 15-20, fig. 1.
- , 1973b. The use of etorphine hydrochloride (M99) (Reckitt), fentanyl (Janssen) and hyoscine hydrobromide combination for field capture of white rhinoceros. *Lammergeyer*, 19: 28-30.
- & P.A. BASSON, 1973. Mycobacteriosis in a black rhinoceros (*Diceros bicornis* Linnaeus 1758). *Journal of the South African veterinary medical association*, 44(3): 285-286.
- , J.L. TINLEY, K. ROCHAT & J.V. CLARK, 1969. The immobilization and translocation of black rhinoceroses *Diceros bicornis* using etorphine hydrochloride (M99). *Lammergeyer*, 10: 4-11.
- KEIMER, Ludwig, 1937. Sur deux représentations de rhinocéros récemment découvertes à Erment et à Deir el-Bahari. *Bulletin de l'Institut d'Égypte*, 19: 325.
- 1938a. Nouvelles recherches au sujet du rhinocéros dans l'Égypte ancienne. *Bulletin de l'Institut d'Égypte*, 20: 304.
- , 1938b. Rhinoceros horns in Saqqara. Pp. 71-73 in: W.B. Emery, Excavations at Saqqara, 1937-1938: Hor-Aha. Cairo, Government press.
- , 1948. Note sur les rhinocéros de l'Égypte ancienne. *Annales du Service des antiquités de l'Égypte*, 48(1): 47-54, figs. 1-5.

- KELHAM, Moira, 1956. Report from Regent's park. *Zoo Life*, 10(4): 121-126, 5 figs.
- KELLER, E., 1932. De neushoorn in Borneo. *Tropische natuur*, 21(12): 229.
- KELLER, Otto, 1887. Thiere des klassischen Alterthums in culturgeschichtlicher Beziehung: ix, 488. Innsbruck, Wagner.
- , 1909. Die antike Tierwelt, I: Säugetiere: xii, 434. Leipzig, Wilhelm Engelmann.
- KENYA GAME DEPARTMENT, 1937. Game department annual report, 1935: Kenya colony and protectorate. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 31: 31-45.
- KERKHOVEN, A.R.W., 1916. De jachtwet. *Tijdschrift binnenlands bestuur*, 49: 367-374.
- , 1926. Rhinoceros-jacht op Java. *Nederlandsche jager*, 32(21): 326-329, 1 fig. (Reprinted in: *Nederlandsch Indische jager*, 11(5): 92-95, 2 figs., 1941)
- KERR, Michael A. & Rupert FOTHERGILL, 1971. Black rhinoceros in Rhodesia. *Oryx*, 11(2/3): 129-134, 1 fig. 1 map.
- KERR, Robert, 1792. The animal kingdom, or zoological system, of the celebrated Sir Charles Linnaeus; class I: Mammalia: xli, 664. London, J. Murray & R. Faulder.
- KERR, Walter Montagu, 1887. The far interior: a narrative of travel and adventure from the Cape of Good Hope across the Zambesi to the lake regions of central Africa, I: xviii, 316. London, Sampson Low, Marston, Searle & Rivington.
- KEYSER, Marja, 1976. Komt dat zien! De Amsterdamse kermis in de negentiende eeuw: 232. Amsterdam, B.M. Israël/Rotterdam, A. Donker.
- KHAJURIA, H., 1956. A preliminary study on the conservation of the great one-horned rhinoceros in the Kaziranga Wild life sanctuary, Sibsagar district, Assam. (Abstract) *Proceedings of the 3rd Indian science congress, Agra*, part IV (Late abstracts etc.): 38.
- KHALIL, M., 1927. Une nouvelle espèce de *Parabronema* du rhinocéros (*Parabronema rhinocerotis* n. sp.). *Annales de parasitologie humaine et comparée*, 5(1): 37-40, figs. 1-4.
- KHAN, Mohamed bin Momin Khan, 1962. Eine ungewöhnliche Nashorn-Aufnahme. *Tier*, 2(10): 42-43, 1 fig.
- , 1971. The distribution of large animals in Taman Negara. *Malayan nature journal*, 24(3/4): 125-131, pls. 41-42, 1 map.
- KIEFFER, Ch., 1953. Les reserves de faune du Cameroun. *Mammalia*, 17: 270-274, fig. 1.
- KIEW BONG HEANG & J.L. FURTADO, 1977. Danum valley, Sabah. *World Wildlife Yearbook*, 1976-77: 141.
- KILLERMANN, Sebastian, 1908. Das Einhorn und Rhinoceros. *Deutscher Hausschatz in Wort und Bild*, 34(15): 580-582, 3 figs.
- , 1910. A. Dürers Pflanzen- und Tierzeichnungen und ihre Bedeutung für die Naturgeschichte: x, 121. Strassburg, J.H. Ed. Heitz.
- KING, J.M., 1969. The capture and translocation of the black rhinoceros. *East African wildlife journal*, 7: 115-130, pls. 1-2, fig. 1.
- & B.H. CARTER, 1965. The use of the origavine derivative M.99 for the immobilisation of the black rhinoceros (*Diceros bicornis*) and its antagonism with the related compound M.285 or nalorphine. *East African wildlife journal*, 3: 19-26, figs. 1-5.
- KING, R.W., 1962. In pursuit of the white rhinoceros. *African wildlife*, 16(2): 123.
- KINGDON, Jonathan, 1979. East African mammals: an atlas of evolution in Africa, III Part B: Large mammals: iv, 436. London etc., Academic press.
- KINLOCH, Alexander Angus Airlie, 1885. Large game shooting in Thibet, the Himalayas, and northern India: vii, 237. Calcutta, Thacker, Spink & Co. (1st ed. 1869).
- , 1904. Indian rhinoceros shooting. Pp. 59-66 in: F.G. Aflalo (ed.), *The sportsman's book for India*: xvi, 566. London, Horace Marshall & Son.
- KINLOCH, Bruce, 1967. Kagera - cinderella of Africa's parks. *Animals*, 10(5): 212-217, 6 figs.
- KIPLING, Rudyard, 1921. Just so stories for little children: v, 219. London, MacMillan & Co. (1st ed. 1902).
- KIRBY, Frederick Vaughan, 1896. In haunts of wild game: a hunter-naturalist's wanderings from Kahlamba to Libombo: xvi, 576. Edinburgh & London, William Blackwood and sons.
- , 1899. Sport in East central Africa: being an account of hunting trips in Portuguese and other districts of East central Africa: xvi, 340. London, Rowland Ward.

- , 1920. The white rhinoceros, with special reference to its habits in Zululand. *Annals of the Durban museum*, 2(5): 223-242, pl. 27.
- KIRCHER, Athanasius, 1675. Arca Noë, in tres libros digesta, quorum I. De rebus quae ante Diluvium, II. De iis, quae ipso Diluvio ejusque duratione, III. De iis, quae post Diluvium à Noëmo gesta sunt, quae omnia novâ methodo, nec non summa argumentorum varietate, explicantur & demonstrantur: 472. Amstelodami, J. Janssonius.
- KIRK, Gustav, 1968. Säugetierschutz: Erhaltung, Bewahrung, Schutz (Theriophylaxe): xvi, 216. Stuttgart, Gustav Fischer.
- KIRK, John, 1864. List of mammalia met with in Zambesia, East tropical Africa. *Proceedings of the Zoological society of London*, 1864: 649-660.
- KJAERGAARD, Per, 1974. A note on M. articularis humeri in the wild boar, bear, tapir, and rhinoceros. *Gegenbaurs morphologisches Jahrbuch*, 120(1): 143-145, figs. 1-2.
- KLAITS, Barrie G., 1972. The moving mesaxonic manus: a comparison of tapirs and rhinoceroses. *Mammalia*, 36(1): 126-145, pls. 1-4, fig. 1.
- KLEIN, Jacobus Theodorus, 1751. Quadrupedum dispositio brevisque historia naturalis: iv, 128. Lipsiae, Ionom Schmidt.
- , 1760. Natürliche Ordnung und vermehrte Historie der vierfüßigen Thiere, herausgegeben von Gottfried Renger: 1, xiv, 156. Danzig, Johann Christian Schuster.
- KLIMEK, K., 1971. Black rhino born. *International zoo news*, 18(1): 17.
- KLINGEL, Hans, 1979. Survey of African rhinoceroses. Cyclostyled: 1-9.
- & Ute KLINGEL, 1966. The rhinoceroses of Ngorongoro crater. *Oryx*, 8(5): 302-306, figs. 1-5, 1 map.
- KLÖPPEL, G., 1956. Ueber einen Fall von Volvulus jejuni bei einem Nashorn. *Zoologische Garten*, (N.F.) 21(4): 245-249, figs. 1-2.
- KLOS, Heinz-Georg, 1960. Berlin zoo's rhinos. *International zoo news*, 7(4): 108.
- , 1961a. Berlin (1957). *Zoologische Garten*, (N.F.) 26(1/2): 126-131, figs. 1-5, pls. 1-2.
- , 1961b. Large mammals at W. Berlin zoo. *International Zoo Yearbook*, 2: 45-47, 53-54, pls. 9-10.
- , 1963. White rhinos at West Berlin zoo. *International zoo news*, 10(5/6): 157.
- , 1964a. Berlin (1959). *Zoologische Garten*, (N.F.) 29(3): 135-144, 2 pls, figs. 1-12.
- , 1964b. Ein schöner Erfolg des Naturschutzes. *Kosmos*, 60(3): 147-149, 3 figs.
- , 1966. Kaziranga, ein Besuch des Panzernashorn-Reservats. *Kosmos*, 62(4): 153-156, 2 figs., 1 map.
- , 1969a. Von der Menagerie zum Tierparadies: 125 Jahre Zoo Berlin: 320. Berlin, Haude & Spener.
- , 1969b. Ueber die Zeitdauer des Hornersatzes beim Breitmaulnashorn, *Ceratotherium simum*. *Zoologische Garten*, (N.F.) 36(4/5): 246-250, figs. 1-4.
- , 1971. "Operation Indian rhino". *International zoo news*, 18(4): 137.
- , 1972a. Birth of an Indian rhinoceros. *AZPA Newsletter*, 13(8): 6.
- , 1972b. Indian rhino born. *International zoo news*, 19(5): 187, 1 fig.
- , 1976. Birth of an Indian rhinoceros in the West Berlin zoo. *International zoo news*, 23(4): 42.
- & Hans FRÄDRICH, 1970. Ein Ueberblick über die in zoologischen Gärten gehaltenen afrikanischen Nashörner. *Zoologische Garten*, (N.F.) 38(5): 227-245, figs. 1-5.
- & —, 1971. Veränderungen im Bestand afrikanischer Nashörner in zoologischen Gärten. *Zoologische Garten*, (N.F.) 41(1/2): 49-55.
- & Reinhard FRESE, 1977. Zuchtbücher für Breitmaul- und Spitzmaul-nashörner, 31.12.1975. *Bongo*, Berlin, 1: 70, 72-97.
- & —, 1978. Population trends in African rhinoceroses *Diceros bicornis* and *Ceratotherium simum* living in zoos and safariparks. *International Zoo Yearbook*, 18: 231-234, figs. 1-3.
- & —, 1981a. International studbook of the square-lipped rhinoceros 31.12.1980: 52. Berlin, Zoologischer Garten.
- & —, 1981b. International studbook of the black rhinoceros, 31.12.1980: 45. Berlin, Zoologischer Garten.
- , D. JAROFKE, H. LANGNER & E. MALEK, 1972. Die chemische Zusammensetzung der Panzernashornmilch. *Zuchthygiene*, 7(4): 175-178, figs. 1-2.

- , D. JAROFKE, H.J. LANGNER, H. SIEMS & E. MALEK, 1974. Die chemische und mikrobiologische Zusammensetzung der Panzernashornmilch (Fortsetzung). *Zuchthygiene*, 9(4): 150-153.
- KLOPPENBURG-VERSTEEGH, J., 1915. Wenken en raadgevingen betreffende het gebruik van Indische planten, vruchten enz., 3rd ed.: i. 328, viii. Semarang etc., G.C.T. van Dorp & Co.
- KLOSS, Cecil Boden, 1906. A provisional list of the mammals of the peninsular region. *Journal of the Federated Malay states museums*, 2(1): 147-150.
- , 1909. The primates, carnivores and ungulates of the peninsular region. *Journal of the Straits branch of the Royal Asiatic Society*, 53: 1-47.
- , 1927. The one-horned rhinoceros in the Malay peninsula. *Journal of the Federated Malay states museums*, 13(4): 207-208, pl. 5.
- , 1931. Further records of the one-horned rhinoceros in the Malay states. *Bulletin of the Raffles museum*, 5: 102, pl. 6.
- KLUGE, E., 1950. The white rhinoceros of the Umfolozi game reserve. *African wildlife*, 4(2): 154-159, 3 figs.
- KNAUER, Friedrich Karl, 1914. Der zoologische Garten: Entwicklungsgang, Anlage und Betrieb unserer Tiergärten und deren erziehlische, belehrende und wissenschaftliche Aufgaben: 250. Leipzig. Deutsche naturwissen schaftliche Gesellschaft.
- KNEBEL, J., 1898. Amulettes Javana ises. *Tijdschrift voor Indische taal- land- en volkenkunde*, 40: 497-507.
- KNECHT, Siegfried, 1971. Mein Reitelefant flüchtete vor dem Panzernashorn. *Tier*, 11(7): 24-27, 3 figs.
- KNEELAND, Samuel, 1854. On the horn of the rhinoceros. *Proceedings of the Boston society of natural history*, 4: 175.
- KNIGHTON, William, 1900. The private life of an eastern king together with Elihu Jan's story or the private life of an eastern queen. Edited, with introduction and notes, by S.B. Smith: xlv, 345. London etc., Humphrey Milford, Oxford university press. (1st ed. 1833-34)
- KNOBEL, R., 1958. Present day status of certain ungulates in the Union of South Africa. *Mammalia*, 22: 498-503.
- KNOCHENHAUER, August, 1903. Aus dem Tagebuch eines Elefantenjägers. Pp. 241-406 in: R. Oberländer, Eine Jagdfahrt nach Ostafrika, mit dem Tagebuch eines Elefantenjägers: xxii, 406. Berlin, Paul Parey.
- KNOTTNERUS-MEYER, Theodor Christian Bernhard, 1905. Neues vom zoologischen Garten zu Berlin. *Zoologische Garten*, (A.F.) 46(4): 109-115.
- KNOWLES, F.A., 1911. The distribution of game in Uganda. *Journal of the East Africa and Uganda natural history society*, 2(3): 18-22.
- KOCK, Dieter, 1961. A visit to the Nimule national park in the southern Sudan. *African wildlife*, 15(4): 323-329, 6 figs.
- KOENIG, Oskar, [n.d.]. Koddebeier tussen olifanten: 25 jaar jacht in Oost-Afrika: 255. Utrecht/Antwerpen, Spectrum. (Translation of: Pori Tupu. Darmstadt, Schneekluth, 1953.)
- , 1965. Snorty the rhino: 50. Cape Town, Oskar Koenig.
- KOESNADI, P. Satmoko, R., 1961. Ujung-Kulon nature park, Java. Pp. 107-124, pls. 23-24, 1 map in: J. Wyatt-Smith & P.R. Wycherley (eds.), Nature conservation in Western Malaysia, 1961: 260. Kuala Lumpur, Malayan nature society.
- KOFFEND, John B., 1974. Asia's vanishing wildlife: many species are threatened with extinction. *Asia Magazine*, May 19, 1974: 9-12, 5 figs.
- KOHLÉ, Andreas, 1981. Aus der Geschichte des Kölner Zoos: bemerkenswerte Säugetiere des Tierbestandes. *Zeitschrift des Kölner Zoo*, 24(3): 103-106, 5 figs.
- KOLB, K.H., 1958. Klinische Untersuchung und physiologische Daten des Nashornes (*Diceros bicornis* L.) *Berliner und Münchener tierärztliche Wochenschrift*, 71: 380-382.
- KOLB, Peter, 1719. Caput Bonae Spei hodiernum. Das ist: vollständige Beschreibung des Africanischen Vorgebürges der Guten Hofnung. (etc.): xix, 846, index. Nürnberg, Peter Conrad Monath.
- , 1727. Naaukeurige en uitvoerige beschrijving van de Kaap de Goede Hoop ... (etc.), I: xviii, 529. Amsterdam Balthazar Lakeman.

- KOLMER, Walter, 1918. Zur vergleichende Histologie, Zytologie und Entwicklungsgeschichte der Säugerebnenniere. *Archiv für mikroskopische Anatomie, abt. I für vergleichende und experimentelle Histologie und Entwicklungsgeschichte*, 91: 1-139, pls. 1-4, figs. 1-5.
- KONINGSBERGER, Jacob Christian, 1902. De zoogdieren van Java. *Mededeelingen uit 's Lands plantentuin*, 54: i-iii, 1-75, figs. 1-25.
- KOPS, George François de Bruyn, 1919. Overzicht van Zuid-Sumatra: viii, 166. Amsterdam, Zuid-Sumatra instituut.
- KOURIST, Werner, 1969a. Historische Zootier-Fotos. *Zoologische Beiträge*, (N.F.) 15(2/3): 465-473, figs. 1-10.
- , 1969b. Aus dem Tierbestand des zoologischen Gartens Hamburg: 20. (Hamburg, Zoologischer Garten).
- , 1970. Die ersten einhörnigen Nashörner (*Rhinoceros sondaicus* Desmarest, 1822 und *Rhinoceros unicornis* L., 1758) der grossen europäischen zoologischen Gärten in der Malerei des 19. Jahrhunderts. *Zoologische Beiträge*, (N.F.) 16(1): 141-154, figs. 1-13.
- , 1973. Die ersten zweihörnigen Nashörner, die Tapire und Wale in den zoologischen Gärten und anderen Tiersammlungen (Frühe Haltung von Grosssäugetieren, Teil IV (Schluss)). *Zoologische Beiträge*, (N.F.) 19(1): 137-150, figs. 1-8.
- , 1974. Nachtrag zu Teil I. und Teil II. von 'Frühe Haltung von Grosssäugetieren', in: *Zoologische Beiträge*, N.F. 16/ H. 1 und 17/ H. 2-3, 1970 und 1971. *Zoologische Beiträge*, (N.F.) 20(3): 543-546, figs. 1-3.
- , 1976. 400 Jahre Zoo: im Spiegel der Sammlung: 181. Köln, Rheinland.
- KRAMER, Wilhelm Heinrich, 1756. *Elenchus vegetabilium et animalium per Austriam inferiorem observatorum: sistens ea in classes et ordines genera et species redacta*: x, 400, xxii. Viennae, Praga et Tergesti, Iohannis Thomae Trattner.
- KRANEVELD, Frederik Cornelis & H.J.W. KEDEL, 1956. *Rhinoceros sondaicus* een gastheer voor *Amblyomma crenatum* op Java. *Hemera Zoo*, 63: 364-372, figs. 1-2.
- KRAUSS, Ferdinand, 1851. Die Säugethiere nach Familien und Gattungen mit einem Anhang über den Zahn- und Knochenbau: viii, 104. Stuttgart & Esslingen, von Schreiber und Schill.
- KREAG, Keith K., 1966. Hand-rearing a black rhinoceros, *Diceros bicornis*, at Detroit zoo. *International Zoo Yearbook*, 6: 87-88.
- KREEMER, J. Jr., 1915. Volksheilkunde in den Indischen archipel. *Bijdragen tot de taal- land- en volkenkunde van Nederlandsch-Indië*, 70: 1-112. (Also as: Volksheilkunde im Malaisischen Archipel (Fortsetzung). *Janus*, Leyde, 20: 365-408 (1915).)
- , 1922-23. Atjeh: algemeen samenvattend overzicht van land en volk van Atjeh en onderhoorigheden. I: xvi, 602 (1922); II: xii, 705 (1923). Leiden, E.J. Brill.
- KRISHNAN, M., 1972. A day's span of life. *Illustrated weekly of India*, 93(47), 19 November 1972: 54-55, 2 figs.
- KRISHNE GOWDA, C.D., 1967. Breeding the black rhinoceros, *Diceros bicornis*, at Mysore zoo. *International Zoo Yearbook*, 7: 163-164.
- , 1969. Breeding the great Indian rhinoceros, *Rhinoceros unicornis*, at Mysore zoo. *International Zoo Yearbook*, 9: 101-102, pls. 42-45.
- , 1975. Plans for breeding colonies of large mammals in India. Pp. 309-313, figs. 1-2 in: R.D. Martin (ed.), *Breeding endangered species in captivity*: xxv, 420. London etc., Academic press.
- KROHN, William Otterbein, 1927. In Borneo jungles: among the Dyak headhunters: ix, 327. Indianapolis, Bobbs-Merrill Co.
- KROKER, Ernst, 1890. Schaustellungen auf den Leipziger messen im 16., 17. und 18. Jahrhundert. *Mitteilungen der Deutschen Gesellschaft zur Erforschung vaterländischer Sprache und Altertümer*, 8: 97-137.
- KRUEG, Julius, 1878. Ueber die Furchung der Grosshirnrinde der Ungulaten. *Zeitschrift für wissenschaftliche Zoologie*, 31: 297-345, pls. 20-23.
- KRUMBIEGEL, Ingo, 1928. Säugetierkenntnisse im ältesten China. *Zeitschrift für Säugetierkunde*, 2: 198.
- , 1960. Die asiatischen Nashorne (*Dicerorhinus Gloger* und *Rhinoceros Linné*). *Säugetierkundliche Mitteilungen*, 8(1/2): 12-20, figs. 1-3.
- , 1962. Quellenstudien über asiatische Nashorne. *Säugetierkundliche Mitteilungen*, 10: 1-2, fig. 1.

- , 1965. Das Kopenhagener Sumatranashorn, *Didermocerus sumatrensis* (Fischer, 1814). *Säugetierkundliche Mitteilungen*, 13: 97-100, figs. 1-6.
- KRUYT, Alb. C., 1906. Het animisme in den Indischen archipel: xvi, 541. 's Gravenhage, Martinus Nijhoff.
- KRUYT, J.A., 1877. Atjeh en de Atjehers: twee jaren blokkado of Sumatra's Noord-Oost-Kust: vii, 252, iii. Leiden, G. Kolff.
- KRUGSMAN, B.J., 1933. De in zoogdieren en vogels parasiteerende wormen van Nederlandsch-Indië. *Veearis-enikundige Mededeelingen*, 80: 172-185.
- KUBIAK, Henryk & Bogumila DZIURDZIK, 1972. Histological characters of hairs in extant and fossil rhinoceroses. *Acta biologica Cracoviensia, série Zoologie*, 16(1): 55-61, pls. 12-13.
- KUHNERT, Wilhelm, 1920. Im Lande meiner Modelle, 2nd ed.: viii, 281. Leipzig, Klinkhardt & Biermann.
- KUIPER, Koenraad & Karl Max SCHNEIDER, 1940. Zur Gestalt des Nashornpenis. *Zoologische Garten*, (N.F.) 12(4/6): 288-291, figs. 1-7.
- KULLMANN, ERNST, 1979. Jahresbericht 1978 der Aktiengesellschaft Zoologischer Garten Köln. *Zeitschrift des Kölner Zoo*, 22(3): 75-91, 24 figs.
- KUMM, H. Karl W., 1910. From Hausaland to Egypt, through the Sudan: xiv, 316. London, Constable & Co.
- KUND, H., 1906. Bericht über eine Bereisung der deutsch-französischen Grenze zwischen Schari-Logone-Tuburi. *Mitteilungen von Forschungs-reisenden und Gelehrten aus den deutschen Schutzgebieten*, 19(1): 1-30, map 2.
- KUNTZ, J., 1913. Die geographischen Resultate der Kaokofeld-Expedition 1910/12. *Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, 1913: 436-450.
- KUNZE, Fritz, 1909. Einige Notizen über die Säugetier- und Vogelfauna von Deutsch-Südwestafrika, gesammelt 1906-1907. *Zoologischer Beobachter*, 50: 11-20.
- KUNZOG, John C., 1962. The one-horse show: the life and times of Dan Rice, Circus Jester and Philanthropist, a chronicle of early circus days: xiv, 434. Jamestown, John C. Kunzog.
- KURT, Fred, 1970a. Rhinos and orang utans in Sumatra. *Oryx*, 10(6): 348.
- , 1970b. Natuurbehoud op Sumatra. *Panda-Nieuws*, 6(12): 113-114.
- , 1973. Der Gunung Leuser survey 1970. *Zeitschrift des Kölner Zoo*, 16(2): 59-74, figs. 1-22.
- KUSSENDRAGEL, R.J.L., 1841. Natuur- en aardrijkskundige beschrijving van het eiland Java: xvi, xiv, 327. Groningen, J. Oomkens.
- KYOU-JOUFFROY, Françoise, 1971. La musculature du membre pelvien chez le Daman des arbres *Dendrohyrax dorsalis* (Fraser): comparaison avec les autres mesaxonien tridactyles, tapir et rhinocéros. *Biologia Gabonica*, 7(3): 271-288, pls. 1-2, figs. 1-5.
- LABAT, Jean Baptiste, 1732. Relation historique de l'Ethiopie occidentale: contenant la description des Royaumes de Congo, Angole, & Matamba, traduite de l'Italien du P. Cavazzi, & augmentée de plusieurs relations portugaises des meilleurs auteurs, . . . I: 495, xvii. Paris, C.J.B. Delepine.
- LACÉPÈDE, Bernard Germain Etienne de la ville, comte de & F.M. DAUDIN, 1802. Tableau des divisions, sous-divisions, ordres et genres de mammifères, avec l'indication de toutes les espèces décrites par Buffon, et leur distribution dans chacun des genres: 206. Paris, Plassan.
- LACH, Donald Frederick, 1970. Asia in the making of Europe. II: A century of wonder, book 1: The visual arts: xvii, 257. Chicago and London, University of Chicago press.
- LACROIX, Jean-Bernard, 1977. L'approvisionnement des ménageries et les transports d'animaux sauvages par la compagnie des Indes au XVIIIème siècle. Cyclostyled: 1-29. Lorient. (Also *Revue Française d'Histoire d'Outre-Mer*, 65 (1978): 153-179.)
- LADVOCAT, Jean Baptiste, 1749. Lettre sur le rhinocéros, a M.*** membre de la Société Royale de Londres: 34. Paris, Thihouist.
- LAHAN, P. & R.N. SONOWAL, 1973. Kaziranga wild life sanctuary, Assam: a brief description and report on the census of large animals (March 1972). *Journal of the Bombay natural history society*, 70(2): 245-278.
- LAMAKE PICQUOT, F., 1835. Réponse pour servir de réfutation aux opinions et à la critique du rapport de M. Constant Duméril, sur mon mémoire concernant les Ophidiens, lu à

- l'Academie des sciences le 5 mars 1832; suivie d'une relation de chasse dans les îles des bouches du Gange: 64. Paris, Crochard.
- LAMPRIDIUS, Aelius Antonius Elagabalus, XXVIII. 3.
- LAMSTER, Johann Christian, 1930. Kelken van rhinoceroshoorn. *Tijdschrift van het Koninklijk Nederlandsch aardrijkskundig genootschap*, (2) 47(4): 718-721, 1 pl.
- LANCASTER, D. Gordon, 1953. A check list of the mammals of Northern Rhodesia: vii, 56. Lusaka, Government printer.
- LANE, Frank Walter, 1940. The speed of game birds, fish and mammals. *Field*, 175: 414-416.
- LANG, Ernst M., 1956. Breeding of the Indian rhinoceros at the Basel zoo. *Zoo Life*, 11(4): 126-127, 2 figs.
- , 1957. Geburt eines Panzernashorns, *Rhinoceros unicornis*, im zoologischen Garten Basel. *Säugetierkundliche Mitteilungen*, 5(2): 69-70, 1 fig.
- , 1958. Einige seltenere Zuchterfolge im Basler Zoo. *Zoologische Garten*, (N.F.) 24(3/4): 282-283.
- , 1959. Ein Sumatra-Nashorn im Basler Zoo. *Säugetierkundliche Mitteilungen*, 7(4): 177, 1 fig.
- , 1961a. The rhino house at Basle zoo. *International Zoo Yearbook*, 2: 15-17, pl. 8.
- , 1961b. Beobachtungen am Indischen Panzernashorn (*Rhinoceros unicornis*). *Zoologische Garten*, (N.F.) 25(6): 369-409, figs. 1-24.
- , 1964. Wieder ein junges Panzernashorn. *Zollf*, Basel, 13: 12-13, 1 fig.
- , 1966. Krankheit und Tod des Panzernashornbullen Gadadhar. *Proceedings of the International Symposium of zoo animal diseases*, 8: 301-307.
- , 1967a. Einige biologische Daten vom Panzernashorn (*Rhinoceros unicornis*). *Revue suisse de zoologie*, 74(3): 603-607.
- , 1967b. Safeguarding the Indian rhino. *Zoonoses*, San Diego, 40(1): 16-18, 4 figs.
- , 1972. Fertility problems in captive animals. *British veterinary journal*, 128(9): 433-438.
- , 1975. The Indian rhino in captivity. Pp. 293-302, figs. 1-4 in: R.D. Martin (ed.), *Breeding endangered species in captivity*: xxv, 420. London etc., Academic press.
- , 1976. Nashörner. Pp. 164-172, figs. 57-58 in: H.-G. Klös & E.M. Lang (eds.), *Zootier Krankheiten von wildtieren im Zoo, Wildpark, Zirkus und in Privathand sowie ihre Therapie*: 365. Berlin/Hamburg, Paul Parey.
- , 1977. The Indian rhino (*Rhinoceros unicornis*) in captivity. *Journal of the Bombay natural history society*, 74(1): 160.
- , Madeleine LEUTENEGGER & Kathleen TOBLER, 1977. Indian rhinoceros *Rhinoceros unicornis* births in captivity. *International Zoo Yearbook*, 17: 237-238.
- LANG, Herbert, 1920. The white rhinoceros of the Belgian Congo. *Zoological society bulletin*, New York, 23(4): 65-92, 32 figs, 1 map.
- , 1923. Recent and historical notes on the square-lipped rhinoceros (*Ceratotherium simum*). *Journal of mammalogy*, 4: 155-163, pl. 16.
- , 1924a. Threatened extinction of the white rhinoceros (*Ceratotherium simum*). *Journal of mammalogy*, 5: 173-180.
- , 1924b. The vanishing wild life of Africa. *Natural History*, 24: 313-327, 8 figs.
- , 1924c. Asiatic rhinoceroses secured by the Faunthorpe-Vernay expedition. *Natural History*, 24: 527-528.
- LANGLOIS, Ch.-V., 1911. La connaissance de la nature et du monde au moyen âge d'après quelques écrits français à l'usage des laïcs: xxiv, 401. Paris, Hachette.
- LANGSDORFF, B.de, 1910. Voyage et chasses en Ouganda: i, 238. Paris, Hachette & Cie.
- LAPHAM, Lewis H., 1964. A passion for rhinoceros. *Saturday evening post*, February 1, 1964: 66-68, 2 figs.
- LARKIN, P.N., 1947. Black rhino and white. *Field*, 190: 300.
- , 1953. Game in the Zande country 1911-1925. *Sudan wildlife and sport*, 4(2): 49-59, 1 map.
- LASSEN, Christian, 1852. Indische Altertumskunde, II: Geschichte von Buddha bis auf die Ballabhi- und jüngere Gupta - Dynastie: i, xii, xxxv-cviii, 1092, iii. Bonn, H.B. Koenig.
- LAUFER, Berthold, 1914. Chinese clay figures, part I. Prolegomena on the history of defensive armor. *Publications, Field museum of natural history, anthropological series*, 13(2): i-iii, 73-315, pls. 9-72. (Chapter I. History of the rhinoceros, pp. 73-173.)

- LAURENT, H.M. & Claude GUERIN, 1974. L'extermination du rhinocéros noir en Tanzanie. *Biological conservation*, 6(3): 228-231, figs. 1-2. (Also: *Revue nationale de la chasse*, Paris, 328: 72-75, 3 figs. (1975).)
- LAURIE, William Andrew, 1978a. Hoffnung für die Dicken? *Geo- Magazin*, 1978(6): 88-102, 17 figs.
- , 1978b. The ecology and behaviour of the greater one-horned rhinoceros. A dissertation submitted to the University of Cambridge, Unpublished: iii, xxvi, 450, i, pls. 1-42. Cambridge.
- , 1978c. The ecology and behaviour of the greater one-horned rhinoceros. [Summary of thesis.] *Tiger paper*, Bangkok, 5(4): 24-25.
- , 1982. Behavioural ecology of the greater one-horned rhinoceros (*Rhinoceros unicornis*). *Journal of zoology*, 196(3): 307-341, pls. 1-3, figs. 1-11.
- & Robert OLIVIER, 1977. Pachyderms in peril. *New scientist*, 75: 658-660, 6 figs.
- LAVAUDEN, Louis, 1932. Les rhinocéros. *Terre et la vie*, 2(9): 507-519.
- , 1934. Les grands animaux de chasse de l'Afrique française (A.O.F., A.E.F. et Cameroun). *Faune des colonies françaises*, 5(7): 323-497, pls. 1-20, figs. 1-60.
- LAVIEREN, L.P. van & M.L. BOSCH, 1977. Evaluation des densités de grands mammifères dans le parc national de Boubia Ndjida, Cameroun. *Terre et la vie*, 31(1): 3-32, figs. 1-2.
- LAYARD, Austen Henry, 1849. Nineveh and its remains: with an account of a visit to the Chaldaean Christians of Kurdistan, and the Yezidis, or devil-worshippers; and an enquiry into the manners and arts of the ancient Assyrians, II: xii, 495. London, John Murray.
- LAYARD, Edgar Leopold, 1861. Catalogue of the specimens in the collection of the South African museum, part I: Mammalia: iv, 83. Cape Town, Saul Solomon & Co.
- LEAKEY, L.B.S. & Ylla LEAKEY, 1953. Animals in Africa: 144. London, Harvill press.
- LEGUAT, François, 1708. Voyage et aventures de — & de ses compagnons, en deux îles desertes des Indes orientales: avec la relation des choses les plus remarquables qu'ils ont observées dans l'Isle Maurice, à Batavia, au Cap de Bonne-Espérance, dans l'Isle St. Helene & en d'autres endroits de leur route, II: i, 180, xxix. Londres, David Mortier.
- LEHMANN, Alfred, 1952. Zwischen Schaubuden und Karussells: ein Spaziergang über Jahrmärkte und Volksfeste: 190. Frankfurt am Main, Paul Schöps.
- LEKAU, Boonsong, 1963. Report on the Javan and Sumatran rhinos on the Thai-Burmese border. *Conservation news, S.E. Asia*, August 1963: 23, 1 fig.
- , 1968. Threatened species of fauna of Thailand. *IUCN-Publications*, (N.S.) 10: 267-271.
- , 1972. Sumatran rhinos killed in Chaiyaphoom province. *Conservation news, S.E. Asia*, Winter 1972: 48, 1 fig.
- & Jeffrey A. McNEELY, 1977. Mammals of Thailand: xxv, li, 758. Bangkok, Association for the conservation of wildlife.
- LEKKERKERKER, Cornelis, 1916. Land en volk van Sumatra: x, 368. Leiden, E.J. Brill.
- LENZ, Harald Othmar, 1835. Gemeinnützige Naturgeschichte, I: Säugetiere: vi, 450. Gotha, Becker.
- , 1856. Zoologie der alten Griechen und Römer: xxiv, 656.
- LEPLAE, Edmond, 1925. Les grands animaux de chasse du Congo Belge. *Bulletin agricole du Congo Belge*, 16(1): 1-140, figs. 1-81.
- LESSON, René-Primeverre, 1827. Manuel de mammalogie, ou histoire naturelle des mammifères: xv, 442. Paris, Rovet.
- , 1838. Compléments de Buffon, 2e édition, revue, corrigée et augmentée par l'auteur: Races humaines et mammifères: i, 660. Paris, P. Pourrat frères.
- , 1842. Nouveau tableau du Règne animal: Mammifères: v, 204. Paris, Arthus Bertrand.
- LETLEY, O.P., 1962. Square-lipped rhinoceros, *Ceratotherium simum*: note on feeding. no. 31. *Lammergeyer*, 2(1): 67.
- LETSCHER, Owen, 1911. Big game hunting in North-Eastern Rhodesia: xii, 13-266. London, John Long.
- LEUTHOLD, Walther, 1977. African ungulates: a comparative review of their ethology and behavioral ecology: xiii, 307. Berlin etc., Springer (Zoophysiology and ecology, vol. 8).
- LEVAillant, François, 1795. Second voyage dans l'intérieur de l'Afrique par le Cap de Bonne-Espérance, dans les années 1783, 84 et 85, I: i, xlv, 306; II: 426, ii; III: iii, 525, vii. Paris, H.J.

- Jansen et comp.
- LEVEY, Michael, 1956. National gallery catalogues: the eighteenth century Italian schools: 120. London, National gallery.
- LE VIET DU, 1969. Nature conservation in war torn Vietnam. *Conservation news, S.E. Asia*, 8: 64-65, 68, 2 figs.
- LEWYSON, Ludwig, 1858. Die Zoologie des Talmuds: eine umfassende Darstellung der rabbinischen Zoologie, unter steter Vergleichung der Forschungen älterer und neuerer Schriftsteller: xiii, 400. Frankfurt am Main, Joseph Baer.
- LICHTENSTEIN, Heinrich, 1811-12. Reisen im südlichen Africa in den Jahren 1803, 1804, 1805 und 1806, I: iv, 10, 685 (1811); II: i, 6, 661 (1812). Berlin, C. Salfeld.
- LIEURADE, Louis, 1935. Le parc zoologique de Logone-Birmi (Nord-Cameroun). *Terre et la vie*, 5(1): 3-7, 3 figs.
- LINNAEUS, Carolus, 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis, 10th ed., I: iv, 824. Holmiae, Laurentius Salvius.
- , 1766. Systema naturae . . . 12th ed. I: 532. Holmiae, L. Salvius.
- LINSCHOTEN, Jan Huygen van, 1644. Itinerarium, ofte schip-vaert naer oost ofte Portugaels Indien. (etc.): viii, 147. Amsterdam, Everhardt Cloppenburg. (Translation: The voyage of Jan Huygen van Linschoten to the East Indies, from the old English translation of 1598. The first book, containing his description of the East. Edited by Mr. P.A. Tiek, II: xv, 341. London, Hakluyt society, works 71, 1885).
- LITHGOW, Tom, 1960. Rhino in danger: facing extinction in Crater highlands. *Wild life*, Nairobi, 2(4): 6-8.
- , 1961. The possible extinction of rhino at the Ngorongoro crater. *African wildlife*, 15(2): 162-165, 1 fig.
- LIVINGSTONE, David, 1854. Explorations into the interior of Africa. *Journal of the Royal geographical society*, 24: 291-300, 1 map.
- , 1857. Missionary travels and researches in South Africa; including a sketch of sixteen years' residence in the interior of Africa, and a journey from the Cape of Good Hope to Loanda on the west coast; thence across the continent, down the river Zambesi, to the eastern ocean: x, 687. London, John Murray.
- LIVINGSTONE, Douglas, 1977. A rhino for the boardroom: a radio play. Pp. 19-58 in: Ernest Pereira (ed.), Contemporary South African plays: vi, 293. Johannesburg, Ravan press.
- LLOIS, Jose Vicente Santafé, 1974a. Lo que fue y lo que es el rinoceronte. *Zoo revista*, Barcelona, 19: 25-28, 3 figs, 1 map.
- , 1974b. Rinocerontes asiáticos, II. *Zoo revista*, Barcelona, 20: 19-21, 1 fig, 1 map.
- , 1974c. Rinocerontes Asiáticos. III. *Zoo revista*, Barcelona, 21: 19-22, 2 figs, 1 map.
- LLOYD, Joan Barclay, 1971. African animals in Renaissance literature and art: xi, 145. Oxford, Clarendon press.
- LOBO, Jeronymo, 1728. Voyage historique d'Abissinie. Traduite de portugais, continué & augmentée de plusieurs dissertations, lettres & mémoires, par M. le Grand: xvi, 514, x. Paris/La Haye, P. Gosse & J. Neaulme.
- LOCH, Charles W., 1937. Rhinoceros sondaicus, the Javan or lesser one-horned rhinoceros and its geographical distribution. *Journal of the Malayan branch of the Royal asiatic society*, 15(2): 130-149, pls. 3-4, 1 map.
- LÖNNBERG, Einar, 1912a. Mammals collected by the Swedish zoological expedition to British East Africa 1911. *Kungliga Svenska vetenskapsakademiens handlingar*, (N.F.) 48(5): 1-188, pls. 1-15, figs. 1-5.
- , 1912b. Anatomical notes on mammals obtained in British East Africa by the Swedish zoological expedition 1911, I. *Kungliga Svenska vetenskapsakademiens handlingar*, (N.F.) 49(7): 1-33, pls. 1-2, figs. 1-3.
- , 1920. En hvit noshörning från 1845 upställd i Riksmuseet. *Fauna och flora*, Uppsala & Stockholm, 15: 193-203, 1 pl.
- LORZING, J.A. 1917. De Patocha en zijn omgeving. *Tropische Natuur* 6(6): 81-86.
- LOISEL, Gustave, 1907. Rapport sur une mission scientifique dans les jardins et établissements zoologiques publics et privés du Royaume-Uni, de la Belgique et des Pays Bas. *Nouvelles*

- archives des missions scientifiques*, Paris, 14: i, 1-124, pls. 1-25. (Translation: The zoological gardens and establishments of Great Britain, Belgium and the Netherlands. *Annual report of the Board of regents of the Smithsonian institution*, for the year ending June 30, 1907: 407-448, figs. 1-25. Washington, 1908.)
- , 1912. Histoire des ménageries de l'antiquité à nos jours, I, Antiquité - Moyen Age - Renaissance: ii, 319; II, Temps modernes (XVIII^e siècle): iv, 392; III, Epoque contemporaine (XIX^e et XX^e siècles): iv, 563. Paris, Octave Doin et fils & Henri Laurens.
- LONITZER, Adamo, 1679. Kreuterbuch, künstliche Conterfeytunge der Bäume, Stauden, Hecken, Kräuter, Getreyd, Gewürze &c. . . : xv, 750, xxiv. Ulm, Matthäus Wagner. (1st ed. Frankfurt a.M., C.E. Erben 1557).
- LOOSE, H., 1975. Pleistocene Rhinocerotidae of W. Europe with reference to the recent two-horned species of Africa and S.E. Asia. *Scripta geologica*, 33: 1-59, pls. 1-13, figs. 1-9.
- LOW, James, 1836. History of Tenasserim. *Journal of the Royal Asiatic Society of Great Britain and Ireland*, 3: 25-54, figs. 2-4.
- , 1850. The Karean tribes or aborigines of Martaban and Tavai, with notices of the aborigines in Keddah and Perak. *Journal of the Indian archipelago & Eastern Asia*, 4: 413-432.
- LOWNDS, Leo, 1952. Mammals of the Kruger national park. *African wildlife*, 6(1): 50-54, 2 figs.
- LUBACH, Douwe, 1868. Bijkomende hoorn bij rhinocerosen. *Album der natuur, wetenschappelijk bijblad*, (N.R.) 1868: 88.
- LUCAS, Frederic A., 1920. The unicorn and his horn. *Natural History*, 20(5): 532-535, 1 pl., 1 fig.
- LUCE, Gordon Hannington & PE MAUNG TIN, 1939. Burma down to the fall of Pagan: an outline, part I. *Journal of the Burma research society*, 29(3): 264-282.
- LUCILIUS, C. (2nd century B.C.). *Saturarum*, III. 135. (117).
- LUDKING, E.W.A., 1860. Natuur- en geneeskundige topographische schets der Assistent-residentie Agam. *Geneeskundig tijdschrift voor Nederlandsch Indië*, (N.S.) 4: 1-172.
- LUDOLFUS, Jobus, 1681. *Historia Aethiopia sive brevis & succincta descriptio Regni Habessinorum, quod vulgò malè Presbyteri Iohannis vocatur*: (unpag.). Francofurti ad Moenum, Joh. David Zunner.
- LUDWIG, Kurt S., 1962. Zur Kenntnis der Geburtsplacenten der Ordnung Perissodactyla. *Acta anatomica*, 49: 154-167, figs. 1-14.
- & Z.J. DOLINAR, 1963. Zur Kenntnis der Placenta des Panzernashorns. *Acta anatomica*, 55: 401-402.
- & Edith MÜLLER, 1965. Zur Histochemie der Placenta des Panzernashorns (*Rhinoceros unicornis* L.). *Verhandlungen der anatomischen Gesellschaft, Ergänzungsheft Anatomischer anzeiger*, 115: 155-159, figs. 1-3.
- & W. VILGGER, 1965. Zur Ultrastruktur der Blutzottenepithelien in der Placenta des Indischen Panzernashorns (*Rhinoceros unicornis* L.). *Acta anatomica*, 62: 593-605, figs. 1-10.
- LUDERS, Heinrich, 1897. Die Sage vom Rysaënga. *Nachrichten von der königlichen Gesellschaft der Wissenschaften, Göttingen, philologisch-historischen Klasse*, 1897: 87-135.
- LUGARD, Frederick John Dealtry, 1893. The rise of our East African empire: early efforts in Nyasaland and Uganda, I: xx, 563. Edinburgh & London, William Blackwood and sons.
- LUKASZEWICZ, Karol, 1962. Zoological gardens as asylum for vanishing mammals (in Polish). *Przegląd zoologiczny*, Wrocław, 6(4): 303-306, 2 pls, figs. 1-7.
- LUKIN, A., 1883. Zoologischer Garten in St. Petersburg: Verzeichnis des Tierbestandes am 1. September 1882. *Zoologischer Garten*, (A.F.) 24: 279-281.
- LUMHOLTZ, Karl Sofus, 1921. Through Central Borneo: an account of two years' travel in the land of the head-hunters between the years 1913 and 1917, I: xix, 242, II: x, 243-467. London, T. Fisher Unwin.
- LUNDHOLM, B., 1951. Expedition to the Kaokoveld. *African wildlife*, 5(3): 183-184.
- LYDEKKER, Richard, 1880a. A sketch of the history of the fossil vertebrata of India. *Journal of the Asiatic Society of Bengal*, 49: 8-40.

- , 1880b. Notes on the dentition of Rhinoceros. *Journal of the Asiatic society of Bengal*, 49(3): 135-141, pl. 7.
- , 1881. Indian tertiary and post-tertiary vertebrata: Siwalik Rhinocerotidae. *Memoirs of the Geological survey of India*, (10) 2: 1-62, pls. 1-10.
- , 1883. Synopsis of the fossil vertebrata of India. *Records of the Geological survey of India*, 16(2): 61-93.
- , 1892a. Notes on rhinoceroses, ancient and modern. *Field*, 79: 903, fig. 1.
- , 1892b. Notes on rhinoceroses, ancient and modern. *Field*, 80: 38, figs. 1-2.
- , 1893. Horns and hoofs, or chapters on hoofed animals: xv, 411. London, Horace Cox.
- , 1900. The great and small game of India, Burma, & Tibet: xviii, 416. London, Rowland Ward.
- , 1905. The Singpho rhinoceros. *Field*, 106: 152.
- , 1907a. The game animals of India, Burma, Malaya, and Tibet being a new and revised edition of 'The great and small game of India, Burma, and Tibet': xv, 409. London, Rowland Ward.
- , 1907b. A one-horned white rhinoceros. *Field*, 110: 1119.
- , 1907c. Guide to the great game animals (Ungulata) in the department of zoology, British Museum (Natural History): viii, 93. London, British Museum.
- , 1908. The white rhinoceros. *Field*, Feb. 22, 1908, no. 2878: 319.
- , 1909. Oriental big game notes. *Field*, 113: 923.
- , 1911a. Skulls of the Southern white rhinoceros. *Field*, 117: 649.
- , 1911b. An African rhinoceros, klipspringer, and gazelle. *Proceedings of the Zoological society of London*, 1911(2): 958-962, figs. 191-193.
- , 1913. Catalogue of the heads and horns of Indian big game bequeathed by A.O. Hume, C.B., to the British Museum (Natural History): xvi, 45. London, Trustees of the British Museum.
- , 1916. Catalogue of the Ungulate mammals in the British Museum (Natural History), V: Perissodactyla (horses, tapirs, rhinoceroses), Hyracoidea (Hyraxes), Proboscidea (elephants): xlv, 207. London, Trustees of the British Museum.
- , [1925?]. Wild life of the world: a descriptive survey of the geographical distribution of animals, II: iii-xii, 440. London/New York, Frederick Warne & Co.
- LYELL, Denis David, 1910. Hunting trips in Northern Rhodesia: with accounts of sport and travel in Nyasaland and Portuguese East Africa, and also notes on the game animals and their distribution: xii, 118. London, Horace Cox.
- , 1912. Nyasaland for the hunter and settler: xi, 103. London, Horace Cox.
- , 1913. Wild life in Central Africa: xvi, 284. London, Field & Queen.
- LYNCH, L.J., V. ROBINSON & C.A. ANDERSON, 1973. A scanning electron microscope study of the morphology of rhinoceros horn. *Australian journal of biological sciences*, 26(2): 395-399, figs. 1-9.
- LYNDEN, D.W.C. Baron van & J. GROLL, 1851. Aanteekeningen over de landen van het stroomgebied der Kapoas. *Natuurkundig tijdschrift voor Nederlandsch Indië*, 2: 537-636.
- LYON, Marcus Ward Jr., 1908. Mammals collected in Eastern Sumatra by Dr. W.L. Abbott during 1903, 1906 and 1907, with descriptions of new species and subspecies. *Proceedings of the United States national museum*, 34: 619-679, pls. 52-56.
- , 1911. Mammals collected by Dr. W.L. Abbott on Borneo and some of the small adjacent islands. *Proceedings of the United States national museum*, 40: 53-146, pls. 1-7.
- MAAREL, Franciscus Hendricus van der, 1932. Contribution to the knowledge of the fossil mammalian fauna of Java. *Wetenschappelijke mededeelingen*, Dienst van de mijnbouw in Nederlandsch Oost-Indië, 15: 1, 1-208, pls. 1-20.
- MAASS, Alfred, 1917. Quer durch Sumatra: Reise-Erinnerungen, 2nd ed.: xviii, 177. Berlin und Leipzig, B. Behr & Friedrich Feddersen.
- MACARTNEY, Patrick, 1970. Black rhino in Zambia. *Black Lechwe*, 8(3): 21.
- MCCAIN, Garvin & George STEPTER, 1968. Discrimination learning and extinction in the black rhinoceros (*Diceros bicornis*). *Psychonomic science*, 13(3): 189-190, figs. 1-3.
- MCCRANE, Marion, 1967. Black rhino born. *International zoo news*, 14(5): 135, 1 fig.

- McCulloch, B. & P.L. Achard, 1969. Mortalities associated with the capture, translocation and exhibition of black rhinoceros, *Diceros bicornis*. *International Zoo Yearbook*, 9: 184-191.
- , J. Jonathan & S.C. Dunnett, 1969. Further report on the development of Saanane island, and its role in wildlife conservation in East Africa. *International Zoo Yearbook*, 9: 139-142.
- MacGregor, C.R., 1887. Journey of the expedition under Colonel Woodthorpe, R.E., from upper Assam to the Irawadi, and return over the Patkoi range. *Proceedings of the Royal geographical society*, 9: 19-42.
- Mackenzie, Peter Zambra, 1950. Black rhino of the Twij. *Field*, 196: 586, 2 figs.
- , 1953. Rhino traps and rhino horns. *Sudan wildlife and sport*, 3(1): 5-6.
- , 1954. Catalogue of wild mammals of the Sudan occurring in the natural orders Artiodactyla and Perissodactyla. *Sudan museum (natural history), publication* 4: 1-21, maps 1-68.
- McKie, Ronald, 1965. The company of animals: ix, 225. Sydney etc., Angus and Robertson.
- MacKinnon, John, 1970. Stop the rhino horn merchants. *Oryx*, 10(6): 347-348.
- , 1971. The orang-utan in Sabah today: a study of a wild population in the Ulu Segama reserve. *Oryx*, 11(2/3): 141-191, pls. 1-14, figs. 1-10.
- , 1973. Orang-utans in Sumatra. *Oryx*, 12(2): 234-242, fig. 1, 1 map.
- , 1974. In search of the red ape: 221. London, Collins.
- Mackler, Sally F. & Helmut K. Buechner, 1978. Play behavior and mother-young relationships in captive Indian rhinoceroses (*Rhinoceros unicornis*). *Zoologische Garten*, (N.F.) 48(2/3): 177-186, figs. 1-3.
- McMaster, Andrew Cooke, 1870. Notes on Jerdon's Mammals of India, by an Indian sportsman and lover of natural history: vi, 266. Madras, Higginbotham & Co.
- McNeely, Jeffrey A. & Edward W. Cronin, 1972. Rhinos in Thailand. *Oryx*, 11(6): 457-460, 1 fig, 1 map.
- & W. Andrew Laurie, 1977. Rhinos in Thailand. *Oryx*, 13(5): 486-489, 1 map.
- Maes, Joseph, [1910?]. Le Jardin zoologique d'Anvers: album-guide illustré: 32. Antwerp.
- Maffei, Johannes Petrus, 1590. Historiarum Indicarum libri XVI: selectarum, item, ex India epistolarum libri IV: iv, index, 763, 462. Coloniae Agrippinae, Birekmanica.
- Maitre, Henri, 1912. Les jungles Moï: exploration et histoire des hinterlands moï du Cambodge, de la Cochinchine, de l'Annam et du bas Laos. Mission Henri Maitre (1909-1911) Indochine sud-centrale: 3, iv, 579. Paris, Emile Larose.
- Major, Richard Henry (ed.), 1857. India in the fifteenth century: being a collection of narratives of voyages to India, in the century preceding the Portuguese discovery of the Cape of Good Hope; from Latin, Persian, Russian and Italian sources, now first translated into English: v, xc, 49, 39, 32, 19, vii. London, Hakluyt society.
- Maipuria, Trilok Chandra, 1977. Sacred and symbolic animals of Nepal: animals in the art, culture, myths and legends of the Hindus and Buddhists: 2, vi, 216. Kathmandu, Sahayogi Prakashan.
- Makacha, S., C.L. Mollé & J. Rwezaura, 1979. The conservation status of the black rhinoceros (*Diceros bicornis*, L.) in the Ngorongoro crater, Tanzania. *African journal of ecology*, 17: 97-103, figs. 1-4.
- Makinson, K. Rachel, 1954. The elastic anisotropy of keratinous solids, I: The dilatational elastic constants. *Australian journal of biological sciences*, 7(3): 336-347, figs. 1-2.
- Malaya Game Department, 1950. Malayan wildlife (From the Game department report, 1949). *Oryx*, 1(2): 83-89.
- Malbrant, L., 1930. Notes sur les mammifères du Tchad. *Revue d'histoire naturelle (première partie, A. Mammalogie)*, 11: 345-355.
- Malbrant, René, 1936. Faune du Centre Africain Français (mammifères et oiseaux): viii, 430. Paris, Paul Lechevalier (Encyclopédie biologique, 15).
- Malcolmson, I.D., 1952. The wild life situation in southern Rhodesia, 1952. *Oryx*, 1: 352-354.
- Maliepaard, C.H.J. & A. de Vos, 1961. Dieren sterven uit, de fossielen van morgen in de vijf werelddelen: 292. Amsterdam/Brussel, Elsevier.
- Malpas, Robert, 1980. Wildlife in Uganda 1980, a survey. A report to the Minister of Tourism & Wildlife, Uganda. Unpublished: ii, ix, 118.

- , 1981. Wildlife survey, Uganda. *World Wildlife Fund Yearbook*, 1980-81: 228-238.
- MANDELSLO, Johann Albrecht von, 1727. Voyages célèbres et remarquables, faits de Perse aux Indes orientales, contenant une description nouvelle & très-curieuse de l'Indostan, de l'empire du Grand-Mogol, des Iles & Presqu'îles de l'Orient, des royaumes de Siam, du Japon, de la Chine, du Congo & c., I: xxviii, cols. 808, index. Amsterdam, Michel Charles le Cène.
- MANDT, C.C.W., 1857. Doodelijke gevolgen van een slangenbeet. *Tijdschrift der Vereeniging tot bevordering der geneeskundige wetenschappen in Nederlandsch Indië*, 5: 956-961.
- MANNERS-SMITH, J., 1909. Haunts of the Indian rhinoceros. *Journal of the Bombay natural history society*, 19(3): 746-747.
- MANSON, A., 1876. Unusual visit by a wild rhinoceros. *Oriental sporting magazine*, 9: 176-178.
- MANVILLE, Richard M., 1957. Longevity of captive mammals. *Journal of mammalogy*, 38(2): 279-280.
- MARCHETTE, Nijven J., 1965. Notes on the flora of Gunung Jerai (Kedah peak). *Malayan nature journal*, 19(3/4): 129-137.
- MARGGRAF, (F), 1758. Examen chymique du sel auquel on a voulu donner le nom de véritable sel alcali fixe de rhinocéros. *Histoire de l'Académie royale des sciences et belles lettres*, Berlin, 12: 145-148.
- MARLIER, Georges, 1966. La Renaissance flamande: Pierre Coeck d'Alost: 427. Bruxelles, Robert Finck.
- MARQUART, J., 1903. Osteuropäische und ostasiatische Streifzüge: Ethnologische und historisch-topographische Studien zur Geschichte des 9. und 10. Jahrhunderts (ca. 840-940): I, 557. Leipzig, Dieterich.
- MARS, Vivienne, 1955. Catching the Raymond & Waring shows, 1829-1854. *White Tops*, 28(2): 9-10, 14, 2 figs.
- MARSDEN, William, 1811. The history of Sumatra, containing an account of the government, laws, customs and manners of the native inhabitants, with a description of the natural productions, and a relation of the ancient political state of that island, 3rd ed.: viii, 479, viii. London, J. McCreery.
- MARSHALL, John, 1931. Mohenjo-Daro and the Indus-civilisation: being an official account of archaeological excavations at Mohenjo-daro carried out by the Government of India between the years 1922 and 1927, I: xxvii, 364, II: xiii, 365-716; III: plates. London, Arthur Probsthain.
- MARSHALL, W., 1900. Die Tierwelt Chinas. *Zeitschrift für Naturwissenschaften*, 73: 71-96.
- MARTENS, Eduard Karl von, 1876. Die Preussische Expedition nach Ost-Asien, nach amtlichen Quellen. Zoologischer Theil, I: Allgemeines und Wirbelthiere: xii, 412. Berlin, R.v. Decker.
- MARTENS, Georg von, 1850. Die Menagerien in Stuttgart. *Jahreshefte des Vereins für vaterländische Naturkunde in Württemberg*, 6: 85-123.
- MARTIALIS, M. Valerius (40-140). Epigrams, IX and XXII.
- MARTIN, Esmond Bradley, 1980a. Selling rhinos to extinction. *Oryx*, 15(4): 322-323, 2 figs.
- , 1980b. The international trade in rhinoceros products: 83. Gland, IUCN/WWF.
- , 1980c. The international trade in rhinoceros products. *World Wildlife Fund Yearbook*, 1979-80: 75-81.
- , 1981a. What to do with rhino horn? *Oryx*, 16(1): 10.
- , 1981b. The conspicuous consumption of rhinos. *Animal Kingdom*, 84(1): 10-19, 8 figs. and 84(2): 20-26, 4 figs.
- MARTIN, Philipp Leopold, 1878. Naturstudien: die botanischen, zoologischen und Akklimatisationsgärten, Menagerien, Aquarien und Terrarien in ihrer gegenwärtigen Entwicklung ...: xii, 252, i. Weimar, B.F. Voigt.
- MARUM, Martinus van, 1803. Naamlijst van het Natuurlikenkabinet der Bataafsche Maatschappij der wetenschappen te Haarlem. *Natuurkundige verhandelungen der Hollandsche maatschappij der wetenschappen*, 2(1): i-xxxiv. (Reprinted in E. Lefebvre & J.G. de Bruijn (eds.), Martinus van Marum, life and works, V: xviii, 445. Leyden, Noordhoff, 1974 on pp. 299-376.)

- MARUSKA, Edward, 1964. Black rhino born. *International zoo news*, 11(5): 151.
- MARX, E. & A. KOCH, 1910. Neues aus der Schausammlung: das Indische Nashorn. *Bericht der Senckenbergischen naturforschenden Gesellschaft in Frankfurt am Main*, 41(3): 161-171, figs. 1-7.
- MASON, Francis, 1882. Burma, its people and productions; or, notes on the fauna, flora and minerals of Tenasserim, Pegu and Burma, I: Geology, mineralogy and zoology, rewritten and enlarged by W. Theobald, 3rd ed.: xxv, 560. Hertford, Stephen Austin & Sons. (1st ed. 1850)
- EL-MAS'UDI, 1841. El-Mas'udi's historical encyclopaedia, entitled 'Meadows of gold and mines of gems': translated from the Arabic by Aloys Sprenger, I: lxxii, 464. London, Oriental translation fund.
- MATOS, Luis de, 1960. Forma e natura e costumi del rinoceronte. *Boletim internacional de bibliografia Luso-Brasileira*, 1(3): 387-398.
- MATSCHE, Paul, 1895. Die Säugethiere Deutsch-Ost-Afrikas: xxviii, 157. Berlin, Dietrich Reimer.
- , 1918. Bemerkungen über F.A.A. Meyers systematisch-summarische Uebersicht der im fünften Bande von Brues Reisen beschriebenen Tiere. *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin*, 1918(3): 98-103.
- MATTENKLODT, Wilhelm, 1936a. Verlorene Heimat: als Schutztruppler und Farmer in Südwest, 2nd ed.: xi, 210. Berlin, Paul Parey. (1st ed. 1928)
- , 1936b. Afrikanische Jagden und Abenteuer. Bearbeitet und herausgegeben von Hauptmann Steinhilber: 246. München, F.C. Mayer.
- MATTHEW, William Diller, 1931. Critical observations on the phylogeny of the rhinoceros. *University of California Publications in geological sciences*, 20(1): 1-9, figs. 1-2.
- , 1932. A review of the rhinoceroses with a description of *Aphelops* material from the Pliocene of Texas. *University of California Publications in geological sciences*, 20(12): 411-482, pls. 61-79, figs. 1-12.
- MATTINGLY, Harold, 1976. Coins of the Roman Empire in the British Museum, II: Vespasian to Domitian, 2nd ed. prepared by R.A.G. Carson: cv, i, 485. London, British Museum. (1st ed. 1930)
- MAUGHAM, Reginald Charles Fulke, 1910. Zambesia: a general description of the valley of the Zambesi river, from its delta to the river Aroangwa, with its history, agriculture, flora, fauna, and ethnography: xiv, 408. London, John Murray.
- , 1920. The republic of Liberia: being a general description of the negro republic, with its history, commerce, agriculture, flora, fauna, and present methods of administration: 299. London, George Allen & Unwin/New York, Charles Scribner's sons.
- MAUNY, Raymond, 1956. Préhistoire et zoologie: la grande 'faune éthiopienne' du Nord-Ouest Africain du paléolithique à nos jours. *Bulletin de l'Institut Français d'Afrique Noire (IFAN)*, Dakar, 18A (1): 246-279, figs. 1-3.
- MAURER, Friedrich, 1967. Der altheutsche Physiologus: die Milstäter Reimfassung und die Wiener Prosa (nebst dem lateinischen Text und dem althochdeutschen Physiologus): xi, 95. Tübingen, Max Niemeyer.
- MAURO, Lucio, 1556. Le antichità de la città di Roma: xxiv, 316. Venetia, Giordano Ziletti.
- MAXWELL, Marcuswell, 1938. Keeping pace with a rhino: an intelligent family party. *Field*, 172: 552-553, 5 figs.
- MAXWELL, Marius, 1924. Stalking big game with a camera in Equatorial Africa: xxii, 202. London, Medici society.
- MAXWELL, W. George, 1906. Mantra Gajah. *Journal of the Straits branch of the Royal Asiatic society*, 45: 1-53.
- MAYDON, H.C., 1932. Big game shooting in Africa: 445. London, Seeley, Service & Co. (Lonsdale Library, vol. 14).
- MAYER, August Franz Joseph Carl, 1847. Beiträge zur Anatomie des Elephanten und der übrigen Pachydermen. *Nova Acta Academiae caesareae Leopoldino-Carolinae naturae curiosorum*, 22(1): 1-88, pls. 1-9.
- , 1852a. Anatomische Untersuchungen über das Auge der Cetaceen nebst Bemerkungen über das Auge des Menschen und der Thiere: i, 55. Bonn, Henry & Cohen.

- , 1852b. Auge des Rhinoceros. *Tagsberichte über die Fortschritte der Natur- und Heilkunde, erstattet von R. Froriep (Abt. für Zoologie und Paläontologie)*, 3(602): 128.
- , 1854. Zur Anatomie des Rhinoceros indicus. Nachtrag zu meiner Anatomie der Pachydermen in den *Nova Acta Acad. N.C.*, vol. XXII. P.1. *Nova Acta Academiae caesareae Leopoldino-Carolinae naturae curiosorum*, 24(1): 1-14, pls. 1-4.
- MAYER, Charles, 1922. Trapping wild animals in Malay jungles: 123. London, T. Fisher Unwin.
- MAYR, A. & H. MAHNEL, 1970. Charakterisierung eines vom Rhinoceros isolierten Hühnerpockenvirus. *Archiv für gesamte Virusforschung*, 31: 51-60, figs. 1-3.
- MEDWAY, Lord, 1958. Rhinoceros' and pigs' teeth as Niah charms? *Sarawak museum journal*, 8: 637-638, 1 fig.
- , 1959. Niah animal bone: II (1954-8). *Sarawak museum journal*, 9: 151-163.
- , 1964. Post-pleistocene changes in the mammalian fauna of Borneo: archaeological evidence from the Niah caves. *Studies in Speleology*, 1(1): 33-37.
- , 1965a. Mammals of Borneo: field keys and an annotated checklist. *Journal of the Malaysian branch of the Royal Asiatic Society*, 36(3): i-xiv, 1-193, pls. 1-34 + frontispiece, figs. 1-9, 1 map. (Also published separately).
- , 1965b. Niah cave animal bone, VIII—Rhinoceros in late Quaternary Borneo. *Sarawak museum journal*, 12: 77-82, pl. 21.
- , 1966. Animal remains from Lobang Angus, Niah. *Sarawak museum journal*, 14: 185-216, pls. 14-19.
- , 1968a. Sumatran rhinoceros in Malaya. *Biological conservation*, 1(1): 94.
- , 1968b. Sumatran rhinoceros: conservation report. *Malayan nature journal*, 22(1): 49-50, pls. 9-11.
- , 1969. The wild mammals of Malaya and offshore islands including Singapore: xix, 127. London etc., Oxford university press.
- , 1972. Subur's sister? *Animals*, 14(3): 141, 2 figs.
- , 1977. Mammals of Borneo: field keys and an annotated checklist: xii, 172. Petaling Jaya, Malaysian branch of the Royal Asiatic Society (Monograph no. 7).
- & E. BALASINGAM, 1968. Status of conservation in Malaya. *IUCN Publications*, (N.S.) 10: 462-466.
- MEESTER, Jurgens, 1973. Le Vaillant's mammal paintings. Pp. 1-24 in: J.C. Quinton & A.M. Lewin Robinson (eds.), François Le Vaillant, traveller in South Africa and his collection of 165 water-colour paintings 1781-1784, II: xiv, 181. Cape Town, Library of Parliament.
- MEGASTHENIS (ca. 300 B.C.). Indica, fragment XV.
- MEINERTZ, Thydsen, 1972a. Eine Untersuchung über die Niere des spitzschnäuzigen Nashorns, *Diceros bicornis* L., sowie Bemerkungen über die Niere einzelner anderer Säugetiere. *Gegenbauers morphologisches Jahrbuch*, 117 (4): 531-542, figs. 1-13.
- , 1972b. Eine topographische Untersuchung über die Facialismuskeln beim Nashorn, *Diceros bicornis* (L.). *Gegenbauers morphologisches Jahrbuch*, 118(2): 206-227, figs. 1-17.
- , 1974. Eine Untersuchung über die Niere des Sumatranashorns (*Dicerorhinus sumatrensis* Cuv.) und die des weissen oder stumpfnasigen Nashorns (*Ceratotherium simum*) sowie eine Erwähnung der Niere bei einigen anderen Säugetieren und Bemerkungen über ältere Korrosionspräparate von Säugetiernieren. *Gegenbauers morphologisches Jahrbuch*, 120(5): 697-735, figs. 1-29.
- , 1975. Weitere Untersuchungen über den Sinus coronarius cordis, die V. cordis media und den Arcus aortae sowie den Ductus (Lig.) Botalli bei einer Anzahl von Säugetierherzen. *Gegenbauers morphologisches Jahrbuch*, 121(1): 139-154, figs. 1-8.
- MEINERTZHAGEN, Richard, 1938. Some weights and measurements of large mammals. *Proceedings of the Zoological society of London*, series A, 108(3): 433-439.
- , 1955. The speed and altitude of bird flights (with notes on other animals). *Ibis*, 97(1): 81-117.
- MELVILLE, R.V., 1977. *Didermoceros* Brookes, 1828 (Mammalia) suppressed under the plenary powers: Opinion no. 1080. *Bulletin of zoological nomenclature*, 34(1): 21-24.
- MENTIS, Michael T., 1970. Estimates of natural biomasses of large herbivores in the Ulu Mulu game reserve area. *Mammalia*, 34(3): 363-393, figs. 1-4.

- , 1972. A review of some life history features of the large herbivores of Africa. *Lammergeyer*, 16: 1-89.
- MENTZEL, Otto Friedrich, 1921. A geographical and topographical description of the Cape of Good Hope, I: 181. Cape Town, Van Riebeeck society (Publication no. 4). (Original Glogau, 1785.)
- MERCK, Johann Heinrich, 1784. Seconde lettre à Monsieur de Cruse, sur les os fossiles d'éléphants et de rhinocéros qui se trouvent en Allemagne et particulièrement dans le pays de Hesse-Darmstadt: i, 25, iii. Darmstadt, Impr. de la Cour et de la Chancellerie du SAS.
- , 1786. Troisième lettre sur les os fossiles d'éléphants et de rhinocéros qui se trouvent en Allemagne et particulièrement dans le pays de Hesse-Darmstadt, adressée à Monsieur Forster: i, 29, I. Darmstadt, Impr. de la Cour et de la Chancellerie du SAS.
- MERENS, D., 1910. De Bem Brem-stroomversnellingen. *Tijdschrift van het Koninklijk Nederlandsch aardrijkskundig genootschap*, (2) 27: 527-558, figs. 1-14, 1 map.
- MERKLEIN, Johann Jacob, 1930. Reise nach Java, Vorder- und Hinter-Indien, China und Japan 1644-1653. Neu herausgegeben nach der zu Nürnberg in Verlag von Joh. Friedrich Endter (1672) gedruckten verbesserten Ausgabe des in Jahre 1663 zum ersten Mal erschienen Textes: xv, 129. Haag, Martinus Nijhoff.
- MERTENS, Robert, 1930. Bemerkungen über die Säugetiere der Inseln Lombok, Sumbawa und Flores. *Zoologische Garten*, (N.F.) 2: 23-29.
- , 1966. Zur Typenterminologie und Nomenklatur einiger Nashörner der Gattung *Diceros*. *Zoologische Garten*, (N.F.) 32(3): 116-117.
- MERWE, Nico J. van der, 1962. The position of nature conservation in South Africa. *Koedoe*, 5: 1-122.
- METCALFE, G.T.C., 1961. Rhinoceros in Malaya and their future. Pp. 183-191, pls. 33-34 in: J. Wyatt-Smith & P.R. Wycherley (eds.), *Nature conservation in western Malaysia*, 1961: 260. Kuala Lumpur, Malayan nature society.
- METHUEN, Henry H., 1846. Life in the wilderness; or wanderings in South Africa: xii, 318. London, Richard Bentley.
- METZLER, Alan, 1981. Indian rhino watch. *Zoos*, San Diego, 54(1): 14-15, 3 figs.
- MEYER, Adolf Bernhard, 1875. The rhinoceros in New Guinea. *Nature*, 11: 268.
- MEYER, Friedrich Albrecht Anton, 1793. Systematisch-summarische Uebersicht der neuesten zoologischen Entdeckungen in Neuhoiland und Afrika, nebst zwey andern zoologischen Abhandlungen: 178, vi. Leipzig, Dyhisch.
- MEYER, Hans, 1909. Das Deutsche Kolonialreich, I: Ostafrika und Kamerun: xii, 650. Leipzig & Wien, Bibliographisches Institut.
- MEYER, Johann Daniel, 1756. Vorstellung mancherley fremder und seltener Thiere, all auf das richtigste in Kupfer gebracht, der Natur gemäss mit ihren Farben abgebildet, III: 10, pls. 1-30. Nürnberg, Andreas Bieling.
- MEUR, Johann Jacob, 1891. Tjarita Ki-Asdoera: het verhaal van Ki-Asdoera. Tekst, vertaling en aanteekeningen, met eene inleiding en opmerking over de spreektaal in Zuid-Banten. *Bijdragen tot de taal-land- en volkenkunde van Nederlandsch-Indië*, (5) 6: 347-384.
- MEYER-HOLZAPFEL, Monika, 1970. Erstmalige Dressur eines Breitmaulnashorns (*Ceratotherium s. simum* (Burch.)) im Schweizer Nationalzirkus Knie. *Zoologische Garten*, (N.F.) 39 (1/6): 210-224, figs. 1-13.
- MEYER, J.C.H. de, 1894. Ueber die Haare der Säugethiere, besonders über ihre Anordnung. *Morphologisches Jahrbuch*, 21: 312-424.
- MICHA, M., 1958. De witte neushoorn. *Zoo*, Antwerpen, 23(4): 111-115, 4 figs.
- MILLER, Gerrit Smith Jr., 1942. Zoological results of the George Vanderbilt Sumatran expedition, 1936-1939, part V. - Mammals collected by Frederick A. Ulmer, Jr. on Sumatra and Nias. *Proceedings of the Academy of natural sciences of Philadelphia*, 94: 107-165, pls. 3-6.
- MILLER, John L., 1967. An Indian zoo breeds an African rhinoceros. *Animal Kingdom*, 70(1): 26-27, 31, 5 figs.
- MILLET, Fernand, 1930. Les grands animaux sauvages de l'Annam: leurs mœurs, leur chasse et leur tir: v, iv, 374. Paris, Plon.

- MILLS, J.P., 1922. The Lhota Nagas: xxxix, 255. London, MacMillan & Co.
- MILNE EDWARDS, A., 1896. [Don d'un crâne de rhinocéros par M. Chénieux.] *Bulletin du Muséum d'histoire naturelle*, Paris, 2: 211.
- MILNE EDWARDS, Henri, 1868. Observations sur le stéréocère de Gall. *Annales des sciences naturelles*, (5) 10: 203-221, pls. 12-14.
- MILROY, Arthur John Wallace, 1935. The preservation of wild life in India, no. 3: Assam. *Journal of the Bombay natural history society*, 37 (1, supplement): 97-104.
- MILTON, Oliver, 1961. The Shwe U Daung, a rhinoceros sanctuary in Burma. Pp. 103-106 in: J. Wyatt-Smith & P.R. Wycherley (eds.), *Nature conservation in western Malaysia*, 1961: 260. Kuala Lumpur, Malayan nature society.
- , 1962. Rubber, tin — and rhinos. *Animal Kingdom*, 65(2): 56-59, 4 figs.
- , 1963. Report on survey of the Sumatran rhinoceros in Mid-Sumatra, May-June, 1963. World Wildlife Fund project no. 35. Cyclostyled: i, 5, 1 map. Singapore.
- , 1964a. The orang-utan and rhinoceros in Sumatra, from two preliminary reports. *Malayan nature journal*, 18(1): 60-62.
- , 1964b. Tree felling drives out the rhinos. *Oryx*, 7(4): 147-148.
- , 1964c. The orang-utan and rhinoceros in North Sumatra. *Oryx*, 7(4): 177-184, pls. 5-8, 1 map.
- & Richard D. ESTES, 1963. Burma wildlife survey 1959-1960: iv, 72. Washington, American committee of international wildlife protection (Special publication, 15).
- MISHRA, Hemant R. & Dorothy MIEROW, 1976. Wild animals of Nepal: viii, 84. Kathmandu, Ratna Pustak Bhandar.
- MITCHELL, B.L., 1953. Game preservation in Nyasaland. *Oryx*, 2(2): 98-110, 1 map.
- , 1966. The survival of an archaic vertebrate (*Diceros bicornis*) in Central Africa. *Puku*, 4: 190, 192.
- MITCHELL, Peter Chalmers, 1905. On the intestinal tract of mammals. *Transactions of the Zoological society of London*, 17: 437-536, figs. 1-50.
- , 1906. Report on the additions to the Society's menagerie during the months June, July, August and September 1906. *Proceedings of the Zoological society of London*, 1906 (2): 760.
- , 1911a. On longevity and relative viability in mammals and birds; with a note on the theory of longevity. *Proceedings of the Zoological society of London*, 1911(1): 425-548.
- , 1911b. Report on the additions to the menagerie during the month of May, 1911. *Proceedings of the Zoological society of London*, 1911 (2): 985.
- , 1911c. Remarks upon a pair of young African rhinoceroses seen at Mr. Hagenbeck's zoological park at Stellingen. *Proceedings of the Zoological society of London*, 1911(2): 987-988.
- , 1911d. Strauss und Rhinoceros im Hagenbockschen Tiergarten. *Zoologische Garten*, (A.F.) 52: 219-220.
- , 1912. Report on the additions to the Society's menagerie during the months of May, June, July, August and September 1912. *Proceedings of the Zoological society of London*, 1912 (2): 908.
- , 1923. Report on additions to the Society's menagerie during the months of November and December 1922. *Proceedings of the Zoological society of London*, 1923(1): 175.
- , 1925. Report on the additions to the Society's menagerie during the months of November and December 1924. *Proceedings of the Zoological society of London*, 1925(1): 327.
- , 1928. Report on the additions to the Society's menagerie during the months of May, June, July, August and September 1928. *Proceedings of the Zoological society of London*, 1928(2): 1036.
- , 1933a. Report on the additions to the Society's menagerie during the month of May 1933. *Proceedings of the Zoological society of London*, 1933 (3): 853.
- , 1933b. Report on the additions to the Society's menagerie during the months June to September 1933. *Proceedings of the Zoological society of London*, 1933(4): 1119.
- MITCHELL, Richard & Fred PUNZO, 1976. New mammal records from Nepal. *Journal of the Bombay natural history society*, 73 (1): 54-58, fig. 1.
- MJÖBERG, Eric Georg, 1929. Durch die Insel der Kopfüger. Abenteuer im Innern von Borneo:

332. Leipzig, F.A. Brockhaus.
- , 1930. In der Wildnis des tropischen Urwaldes: Abenteuer und Schilderungen aus Niederländisch-Indien: 180. Leipzig, F.A. Brockhaus.
- MÖLLER, J.J. 1966. Resettling South Africa's game. *Animals*, 9(5): 294-299.
- MÖLLER, Peter August, 1974. Journey in Africa through Angola, Ovampoland and Damaraland. Translated from the original Swedish edition of 1899 and annotated by Ione and Jalmar Rudner: xiii, 216. Cape Town, C. Struik.
- MOHRKE, Otto Gottlieb Johann, 1883. Blicke auf das Pflanzen- und Thierleben in den Niederländischen Malaienländern: iv, i, 694. Münster, Aschendorff.
- MOHR, ERNA, 1950. Kleine Zahnbeobachtungen in zoologischen Garten. *Zoologische Garten*, (N.F.) 17 (1/5): 84-87, figs. 1-7.
- , 1957. Das Horn des Indischen Rhinoceros unicornis. *Zoologische Garten*, (N.F.) 23 (1/3): 37-45, figs. 1-8.
- MOLINET, Claude du, 1692. Le Cabinet de la Bibliothèque de Sainte Geneviève: viii, 224, viii. Paris, Antoine Dezallier.
- MOLLOY, P.G., 1950. Zandi folklore. *Sudan wildlife and sport*, 1(4): 11-13.
- MOLMENTI, Pompeo Gherardo, 1885. La storia di Venezia nella vita privata dalle origini alla caduta della repubblica, 3rd ed.: vii, 599. Torino, Roux e Favale.
- MOLSBERGEN, E.C. Godée, 1916-1932. Reizen in Zuid-Afrika in de Hollandse tijd. I: Tochten naar het noorden 1652-1686: xxx, 254 (1916); II: Tochten naar het noorden 1686-1806: xl, 310 (1916); III: Tochten langs de Z.O.-kust en naar het oosten 1670-1752: xv, xxxii, 368 (1922); IV: Tochten in het Kafferland 1776-1805: xxxii, 366 (1932). 's Gravenhage, Martinus Nijhoff (Linschooten-Vereeniging, Werken vols. 11, 12, 20, 36).
- MOHIN, K.N., D.R. SHAH & G.M. OZA, 1973. Great Indian rhinoceros inhabited Gujarat. *Current Science*, 42(22): 801-802, figs. 1-3.
- MOMARD, Albert, 1935. Contribution à la mammalogie d' Angola et prodrome d'une faune d'Angola. *Arquivos do Museu Bocage*, Lisboa, 6: 1-314.
- MOND, Robert & Oliver H. MYERS, 1940. Temples of Armant: a preliminary survey, I, II. London, Egypt exploration society.
- MONESTROL, H. de, 1925. Les chasses et la faune d'Indochine: 167. Hanoi, Imprimerie d'Extrême-Orient.
- MONKS, Ellis, 1977. Now rhino is on the way out in Kenya. *Africana*, 6(7): 21.
- MONTFAUCON, Bernard de, 1757. Supplément au livre de l'Antiquité expliquée et représentée en figures, IV: iii, vi, 173. Paris, Giffart, Nyon, Briasson etc.
- MOOR, J.H., 1837. Notices of the Indian archipelago, and adjacent countries; being a collection of papers relating to Borneo, Celebes, Bali, Java, Sumatra, Nias, the Philippine islands, Sulus, Siam, Cochinchina, Malayan peninsula, & c.: 4, viii, 276, 117. Singapore.
- MOREAU, Reginald Ernest, 1944. Mount Kenya: a contribution to the biology and bibliography. *Journal of the East Africa natural history society*, 18 (1/2): 61-92.
- MORGAN, J. de, 1885. Négritos de la presqu'île malaise. *L'Homme (Journal illustré des sciences anthropologiques)*, 2(18): 545-656, figs. 117-146.
- MORICE, Albert, 1875. Coup d'oeil sur la faune de la Cochinchine française: 101. Lyon, H. Georg.
- , 1876. Voyage en Cochinchine pendant les années 1872-73-74: 44. Lyon, H. Georg.
- MORRIS, Randolph Camroux, 1936. To Malaya for a rhinoceros. *Journal of the Bombay natural history society*, 38(3): 439-446, 2 pls.
- MOSCARDO, Ludovico, 1672. Note overo memorie del museo del conte Ludovico Moscardo: xiv, 488. Verona, Andrea Rossi.
- MOSS, Tom, Hartmann AMMAN & Werner PAUWELS, 1981. Javan rhinoceros—Ujung Kulon nature reserve. *World Wildlife Fund Yearbook*, 1980-81: 441-442.
- MOSSOP, E.E. (ed.), 1935. The Journal of Hendrik Jacob Wikar (1779) with an English translation by A.W. van der Horst and the Journals of Jacobus Coetsé Jansz (1760) and Willem van Reenen (1791) with an English translation by Dr. E.E. Mossop: ix, 327. Cape Town, Van Riebeeck society (Publication no.15).
- (ed.), 1947. The Journals of Brink and Rhenius being the Journal of Carel Frederik Brink of the journey into Great Namaqualand (1761-2) made by Captain Hendrik Hop and the

- Journal of Ensign Johannes Tobias Rhenius (1724): xiv, 160. Cape Town, Van Riebeeck society (Publication no. 28).
- MOTTERSHEAD, G.S., 1961. The pachyderm house at Chester zoo. *International Zoo Yearbook*, 2: 3-5, pls. 5-7.
- MOUHOT, Henri, 1864. Travels in the central parts of Indo-China (Siam), Cambodia, and Laos, during the years 1858, 1859, and 1860, II: viii, 301. London, John Murray.
- , 1966. Diary: travels in the central parts of Siam, Cambodia, and Laos during the years 1858-61. Abridged and edited by Christopher Pym: xxii, 160. Kuala Lumpur etc., Oxford university press (Oxford in Asia, Historical reprint).
- MOUNTFORD, Guy, 1969. Pakistan's progress. *Oryx*, 10(1): 39-43, pls. 13-17, 1 map.
- MOURA, Jean, 1883. Le Royaume du Cambodge, I: 3, viii, 518. Paris, Ernest Leroux.
- MUCKAR, Kimpungi, 1977. Rapport succinct sur l'évolution du nombre de rhinocéros blancs et girafes au parc national de la Garamba. *Leopard*, 5: 40-41.
- MÜLLER, Salomon, 1840. Over de zoogdieren van den Indischen archipel. Pp. 1-57, i-vi, in: C.J. Temminck (ed.), *Verhandelingen over de natuurlijke geschiedenis der Nederlandsche overzeesche bezittingen, Zoölogie*. Leiden, S. & J. Luchtmans & C.C. van der Hoek, 1839-45.
- & Herman SCHLEGEL, 1845. Bijdragen tot de natuurlijke historie der rhinocerosen van den Indischen archipel. Pp. 183-193, pls. 33-34 in: C.J. Temminck (ed.), *Verhandelingen over de natuurlijke geschiedenis der Nederlandsche overzeesche bezittingen, Zoölogie*. Leiden, S. & J. Luchtmans & C.C. van der Hoek, 1839-45. (Plates published in 1842.)
- MÜLLER-LIEBENWALDE, 1895. Weisses Rhinoceros. *Zoologische Garten*, (A.F.) 36 (7): 223.
- MUGERA, G.M. & J.G. WANDERA, 1967. Degenerative polymyopathies in East African domestic and wild animals. *Veterinary record*, 80(13): 410-413, figs. 1-6.
- MUKHERJEE, Ajit Kumar, 1963. The extinct, rare and threatened game of the Himalayas and the Siwalik ranges. *Journal of the Bengal natural history society*, 32(1): 36-37, pls. 1-8.
- , 1974. Some examples of recent faunal impoverishment and regression. Pp. 330-368, figs. 26-41 in: M.S. Mani (ed.), *Ecology and biogeography in India*: xix, 773. The Hague, W. Junk (Monographiae biologiae, 23).
- MUKINYA, John G., 1973. Density, distribution, population structure and social organization of the black rhinoceros in Masai Mara game reserve. *East African wildlife journal*, 11(3/4): 385-400, figs. 1-7.
- , 1976. An identification method for black rhinoceros (*Diceros bicornis* Linn. 1758). *East African wildlife journal*, 14: 335-338, figs. 1-2.
- , 1977. Feeding and drinking habits of the black rhinoceros in Masai Mara game reserve. *East African wildlife journal*, 15(2): 125-138, figs. 1-3.
- MULLER, Frederik, 1877. De Nederlandse geschiedenis in platen: beredeneerde beschrijving van Nederlandse historieplaten, zinneprenten en historische kaarten, II: iv, 346, viii, xvi. Amsterdam, Frederik Muller & Co.
- MUNSTER, Sebastian, 1554. *Cosmographiae universalis Lib. VI. in quibus iuxta certioris fidei scriptorum traditionem describuntur*: lxxx, 1163. Basileae, Henrichum Petri.
- MUOKI, Elizabeth, 1979. The elephant, the rhino and the hare. *Swara*, Nairobi, 2(2): 20, 1 fig.
- MURIE, James, 1870. On a probably new species of *Taenia* from the rhinoceros. *Proceedings of the Zoological society of London*, 1870: 608-610, fig. 1.
- MURRAY, Andrew, 1866. The geographical distribution of mammals: xvi, 420. London, Day and son.
- , 1868a. Note on the alleged occurrence of the rhinoceros in Borneo. *Proceedings of the Zoological society of London*, 1868: 440-442.
- , 1868b. Collingwood's rambles in the China sea. *Journal of travel and natural history*, 1: 363-378.
- MURRAY, Marian, 1956. *Circus! From Rome to Ringling*: 354. New York, Appleton-Century-Crofts.
- MURRAY, S.S., 1932. A handbook of Nyasaland: x, 436. London, Government of Natal.
- MURS, O. des, Florent PREVOST, GUICHENOT & GUERIN-MENNEVILLE, [1850]. Quatrième partie: Histoire naturelle - Zoologie, VI: i, 396 in: *Voyage en Abyssinie exécuté pendant les années 1839, 1840, 1841, 1842, 1843 par une Commission scientifique composée de MM.*

- Théophile Lefebvre, A. Petit et Quartin-Dillon, Vignaud, Paris, Arthus Bertrand.
- MWALYOSI, Raphael B.B., 1977. A count of large mammals in Lake Manyara national park. *East African wildlife journal*, 15(4): 333-335.
- MYERS, Arthur Bowen Richards, 1876. Life with the Hamran Arabs: an account of a sporting tour of some officers of the guards in the Soudan during the winter of 1874-5: xvi, 355. London, Smith, Elder & Co.
- NACHTIGAL, Gustav, 1881. Sahara und Südän: Ergebnisse sechsjähriger Reisen in Afrika, II: xxiv, 790. Berlin, Paul Parey.
- NAGEL, Gerhardus Heinrich, 1828. Schetsen uit mijne Javaansche portefeuille: vii, 117. Amsterdam, C.G. Sulpke.
- , 1829. Javaansche tafereelen, (als een vervolg der Schetsen uit mijne Javaansche portefeuille): vii, 176. Amsterdam, C.G. Sulpke.
- NALS, Hélène, 1961. Les animaux dans la poésie française de la Renaissance: v, 718. Paris, Didier (Thèse... du Faculté des lettres et des sciences humaines de l'Université de Paris).
- NAKAGAWA, S. & T. NISHIYAMA, 1959. Broken horn of black rhinoceros grows again (in Japanese). *Animals and Zoo*, Tokyo, 11(2): 8-9, 3 figs.
- NANDI, S.N. & Santosh Kumar DEB, 1972. Horn cancer in rhinoceros. *Indian veterinary journal*, 49 (9): 881-882.
- NATAL PARKS BOARD, 1953. Nature protection in Natal and Zululand. *Oryx*, 2(1): 16-24.
- NATH, Bhola, 1968. Advances in the study of prehistoric and ancient animal remains in India: a review. *Records of the Zoological survey of India*, 61(1/2) (for 1963): 1-63, pls. 1-4.
- , 1969. The rôle of animal remains in the early prehistoric cultures of India. *Indian museum bulletin*, 4(2): 102-110, pls. 1-11, fig. 1.
- , 1976. On the occurrence of Great Indian rhinoceros - *Rhinoceros unicornis* Linn., from the prehistoric site at Chirand, Saran district, Bihar. *Newsletter of the Zoological survey of India*, 2(3): 86-87.
- NEDERLANDSCHE COMMISSIE VOOR INTERNATIONALE NATUURBESCHERMING, 1937a. Bemoeiingen der Nederlandsche Commissie voor internationale natuur bescherming. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 11: 11-19.
- , 1937b. Nederlandsch-Indië. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 11: 19-22.
- NEEDHAM, Joseph, WANG LING & LU GWEE-DJEN, 1971. Science and civilisation in China, IV: Physics and physical technology, part 3. Civil engineering and nautics: lvii, 931. Cambridge, University press.
- NEESE, Harvey C., 1975. Survival of the Javan rhinoceros in Laos: iii, 27. Unpublished Report to the New York zoological society, December 1975.
- , 1976a. Kouprey clues & rhino news. *Wildlife*, 18(9): 410-411, 1 fig, 2 maps.
- , 1976b. Javan rhinos in Laos? *Oryx*, 13(4): 371.
- NEHRING, Alfred, 1901. Ein Schädel des *Rhinoceros simus* im Naturhist. Museum zu Hamburg. *Zoologischer Anzeiger*, 24: 225-228, 1 fig.
- NETZ, W.O., 1965. A check-list and host-list of the zoonoses occurring in mammals and birds in South and South West Africa. *Onderstepoort journal of veterinary research*, 32(2): 189-374.
- NELSON, Lester, 1978. Rhinocerotidae. Pp. 763-768 in: Murray E. Fowler (ed.), Zoo and wild animal medicine: xvi, 951. Philadelphia etc., W.B. Saunders & Co.
- NESTOR, Jean, 1564. Histoire des hommes illustres de la Maison de Medici, avec un abbrege des Comtes de Bologne et d'Auvergne: xi, 234. Paris, Charles Perier.
- NEUMANN, Arthur H., 1898. Elephant hunting in East Equatorial Africa being an account of three years' ivory-hunting under mount Kenia and among the Ndorobo savages of the Lorogé mountains, including a trip to the north end of Lake Rudolph: xix, 455. London, Rowland Ward.
- NEUMANN, Günther, 1899. Revision de la famille des Ixodidés. *Mémoires de la Société zoologique de France*, 12: 107-294, figs. 1-63.
- , 1901. Revision de la famille des Ixodidés. *Mémoires de la Société zoologique de France*,

- 14: 249-372, figs. 1-18.
- NEUMANN, J.B., 1885. Het Pane- en Bala-stroomgebied op het eiland Sumatra (Studien over Batahs en Batahsche larden). *Tijdschrift van het Koninklijk Nederlandsch aardrijkskundig genootschap, afdeling Meer uitgebreide artikelen*, (2) 2(2): i-viii, 9-133.
- NEUMANN, Oscar, 1900. Die von mir in den Jahren 1892-95 in Ost- und Central-Afrika, speciell in den Massai-Ländern und den Ländern am Victoria Nyansa gesammelten und beobachteten Säugethiere. *Zoologische Jahrbücher, Abt. Systematik*, 13: 529-562, 1 map.
- NEUVILLE, Henri Emmanuel, 1927. Remarques et comparaisons relatives aux phanères des rhinocéros. *Archives du Muséum national d'histoire naturelle*, Paris, (6) 2: 179-208, pls. 1-3, figs. 1-11.
- NEVEU-LEMAIRE, M., 1924a. Les strongylidés du rhinocéros africain (*Rhinoceros bicornis*). *Annales de parasitologie, humaine et comparée*, 2: 121-151, pls. 9-20.
- , 1924b. La femelle de *Khalilia rhinocerotis* Neveu-Lemaire parasite du rhinocéros africain (*Rhinoceros bicornis*). *Annales de parasitologie, humaine et comparée*, 2: 224-225, pl. 21.
- , 1925a. Description d'un strongle nouveau du rhinocéros africain *Quilonia parva*, n. sp. *Annales de parasitologie, humaine et comparée*, 3: 290-291, pl. 7.
- , 1925b. Le mâle de *Pteridopharynx omoensis* Neveu-Lemaire parasite du rhinocéros africain (*Rhinoceros bicornis*). *Annales de parasitologie, humaine et comparée*, 3: 392-393, pl. 8.
- NEWBOLD, Thomas John, 1838. Sketch of the Malayan peninsula. *Madras journal of literature and science*, 7: 52-75.
- NEWDIGATE-NEWDIGATE, Anne Emily, 1901. Cavalier and Puritan in the days of the Stuarts, compiled from the private papers and diary of Sir Richard Newdigate, second baronet, with extracts from ms. news-letters addressed to him between 1675 and 1689: xv, 307, i. London, Smith, Elder & Co.
- NEWMAN, Edward, 1870. The horn of the Indian rhinoceros moveable. *Zoologist*, (2) 5: 2341.
- , 1872a. Arrival of a Sumatran rhinoceros at the zoological gardens. *Zoologist*, (2) 7: 3057-3060.
- , 1872b. The female rhinoceros: successful removal of her horn. *Zoologist*, (2) 7: 3061-3062.
- , 1872c. Another rhinoceros at the zoological gardens. *Zoologist*, (2) 7: 3232-3233.
- , 1874. Rhinoceros Sondaicus at the zoological gardens. *Zoologist*, (2) 9: 3949-3952.
- NEWTON, Alfred, 1903. Exhibition of, and remarks upon, photographs of the white rhinoceros taken by C.R. Saunders. *Proceedings of the Zoological society of London*, 1903(1): 222-224, figs. 39-40.
- NGUYEN VAN HIEP, 1963. A report of rhinos in Vietnam. *Conservation news, S.E. Asia*, 1963: 20.
- NICHOLSON, Henry Alleyne & Richard LYDEKKER, 1889. A manual of palaeontology for the use of students, with a general introduction on the principles of palaeontology, II: xi, 889-1624. Edinburgh/London, Blackwood & Sons.
- NICOL, Mike, 1982. *Africana animals*: 60. Johannesburg, Brenthurst press.
- NICOLLS, James A. & William EGLINGTON, 1892. The sportsman in South Africa: the haunts, habits, description, and the pursuit of all game, both fur and feather, found south of the Zambesi (including the Cape Colony, Transvaal, Bechuanaland, Natal, and Damaraland), at the present day, with brief notices of the best known fresh and salt-water fish. London, British and Colonial Publications.
- NIJHOFF, Johan, 1665. L'ambassade de la Compagnie orientale des Provinces Unies vers l'empereur de la Chine, ou Grand Cam de Tartarie, faite par les S. rs Pierre de Goyer, & Jacob de Keyser, illustrée d'une très-exacte description des villes, bourgs, villages, ports de mer, & autres lieux considérables de la Chine: xvi, 290, i, 134. Leyde, Jacob de Meurs.
- , 1682. Zee en lantreize, door verscheide gewesten van Oostindien, behelzende veel zeltzaame en wonderlijke voorvallen en geschiedenissen: beneffens een beschrijving van lantschappen, steden, dieren, gewassen, draghten, zeeden en godsdienst der inwoonders, en inzonderheit een wijtloopig verhael der stad Batavia: iv, 312. Amsterdam, weduwe van Jacob van Meurs.
- NIJEWENDIJK, J.G., 1970. Zoo was Artis—zo is Artis: 176. Amsterdam, De Bussy.
- NIJEWENHUIS, Anton Willem, 1900. In Centraal Borneo: reis van Pontianak naar Samarinda,

- II: viii, 369, xvi. Leiden, E.J. Brill.
- , 1904. Quer durch Borneo: Ergebnisse seiner Reisen in den Jahren 1894, 1896-97, und 1898-1900, I: xv, 493. Leiden, E.J. Brill.
- NISHIYAMA, Toshio, 1961. Keeping black rhinoceros in captivity (in Japanese). *Animals and Zoo*, Tokyo, 13 (11): 14-15, 3 figs.
- & S. NAKAGAWA, 1964. Death of a rhino (in Japanese). *Animals and Zoo*, Tokyo, 16(12): 320.
- NOACK, Th., 1886. Ueber das zottelohrige Nashorn (*Rhinoceros lasiotis*). *Zoologische Garten*, (A.F.) 27: 138-144, 1 fig.
- , 1887. Beiträge zur Kenntnis der Säugethier-Fauna von Ost- und Central Afrika. *Zoologische Jahrbücher, Abt. Systematik*, 2: 193-302.
- , 1889. Beiträge zur Kenntnis der Säugethierfauna von Süd- und Südwest-Afrika. *Zoologische Jahrbücher, Abt. Systematik*, 4: 94-261, pls. 1-4.
- , 1891. Beiträge zur Kenntnis der Säugethier-Fauna von Ostafrika. *Jahrbuch der Hamburgischen wissenschaftlichen Anstalten*, 9(1): 73-160, pls. 1-2. (Reprinted as pp. 1-88, pls. 1-2 in: Franz Stuhlmann, *Zoologische Ergebnisse einer in den Jahren 1888-1890... in die Küstengebiete von Ostafrika unternommenen Reise*, I. Berlin, Dietrich Reimer, 1893.)
- NOLL, Friedrich Carl, 1873. Die Rhinoceros-Arten. *Zoologische Garten*, (A.F.) 14: 47-55, 1 fig.; 81-87, 2 figs and 138-144, 2 figs.
- , 1876. Besuch einiger zoologischen Gärten und Aquarien im Juli 1876. *Zoologische Garten*, (A.F.) 17(9): 335-339.
- , 1889. Die zoologischen Gärten in Kalkutta und Bombay. *Zoologische Garten*, (A.F.) 30: 62-63.
- NORTH, Roger, 1826. The lives of the right Hon. Francis North..., the Hon. Sir Dudley North... and the Hon. and Rev. John North, new edition, II: iii, 475. London, Henry Colburn. (1st ed. 1742).
- NORWOOD, Edwin P., 1929. The circus menagerie: xiii, 230. New York, The Junior Literary Guild.
- NRIPENDRA NARAYAN BHUPA, Maharajah of Cooch Behar, 1908. Thirty-seven years of big game shooting in Cooch Behar, the Duars, and Assam: a rough diary: xxviii, 461. Bombay, Times press.
- OBBOUSSIER, H., 1956. Die Hypophyse des Nashorns (*Rhinoceros unicornis* L. u. *Diceros bicornis* L.). *Zoologischer Anzeiger*, 157(1-2): 1-11, figs. 1-9.
- ODONES, Geraldus (14th century). *Moralium in Job libri XXXV*. In: J.P. Migne, *Patrologiae cursus completus Latinae*, vol. 133.
- O'HARA, Granville M., 1907. Trapping the rhinoceros in the Dindings, Straits settlements. *Indian Forester*, 33: 383-388.
- OKEN, L., 1838. Allgemeine Naturgeschichte für alle Stände, VII (zweyte Abtheilung): Säugethiere I: i, viii, 689-1432. Stuttgart, Hoffmann.
- OLDFIELD, Henry Ambrose, 1880. Sketches from Nipal, historical and descriptive, with anecdotes of the court life and wild sports of the country in the time of Maharaja Jang Bahadur, G.C.B. to which is added an essay on Nipalese Buddhism, I: ix, 418. London, W.H. Allen & Co.
- OLEARIUS, Adamus, 1696a. Reise-Beschreibungen bestehend in der nach Muskau und Persien, wie auch Johann Albrechts von Mandelslo Morgenländischen, und Jürg: Andersens und Volg: Yversens Orientalische Reise... Hamburg, Zacharias Herteln & Thomas von Wiering.
- , 1696b. Anhang und Beschreibung etlicher Orientalischen Inseln (zu J.A. von Mandelslo Reise). Pp. 136-174 in Olearius, 1696a.
- OLIVIER, J., 1916. Een verwaarloosd volksbelang (nabetrachting). *Teyssmannia*, 27: 137-168.
- OORT, P. van & S. MÜLLER, 1833. Aanteekeningen gehouden op ene reis over een gedeelte van het eiland Java. *Verhandelingen van het Bataviaasch genootschap van kunsten en wetenschappen*, 16: 81-156.
- OEPPEL, Albert, 1896. Der Magen (Lehrbuch der vergleichenden mikroskopischen Anatomie der Wirbeltiere, I): viii, 543. Jena, Gustav Fischer.

- , 1897. Schlund und Darm (Lehrbuch der vergleichenden mikroskopischen Anatomie der Wirbeltiere, II): viii, 682. Jena, Gustav Fischer.
- , 1900. Mundhöhle, Bauchspeicheldrüse und Leber (Lehrbuch der vergleichenden mikroskopischen Anatomie der Wirbeltiere, III): x, 1180. Jena, Gustav Fischer.
- OPPIANUS (3rd century). De Venatione, II.
- ORTA, Garcia da, 1895. Coloquios dos simples e drogas da India, II: 443. Lisbon, Imprensa Nacional (Original 1562).
- ORTELIUS, Abraham, 1887. Abraham Ortelii (Geographi Antverpiensis) et virorum eruditum ad eundem et ad Jacobum Colium Ortelianum (Abraham Ortelii sororis filium) epistulae: cum aliquot aliis epistulis et tractatibus quibusdam ab utroque collectis (1524-1628), edidit Joannes Henricus Hessels: lxxv, 966. Cantabrigae, Typis Academiae.
- OSBORN, Henry Fairfield, 1898. The extinct rhinoceroses. *Memoirs of the American museum of natural history*, 1(3): 75-164, pls. 12A-20.
- , 1900. Phylogeny of the rhinoceroses of Europe. *Bulletin of the American museum of natural history*, 13: 229-267, figs. 1-16.
- , 1905. History of a white rhinoceros skull. *Nature*, 72: 127, fig. 1.
- OSTERHOFF, D.R. & Michael E. KIEP, 1970. Natural variation in the blood proteins of white and black rhinos. *Lammergeyer*, 11: 50-53, figs. 1-3.
- , I.A. PETRIE & E. YOUNG, 1972. Haemoglobins in wild animals. *Journal of the South African veterinary association*, 43(4): 361-362, 1 fig.
- OSWELL, William Cotton, 1847. Rhinoceros Oswelli. *Madras journal of literature and science*, 14(33): 169-170.
- & Frank VARDON, 1847. Notice of an expedition into the interior of southern Africa, with a sketch of the course of the Limpopo, and a figure of a supposed new species of rhinoceros. *Madras journal of literature and science*, 14(32): 181-183, 1 pl. 1 map.
- OSWELL, W. Edward, 1900. William Cotton Oswell, hunter and explorer: the story of his life with certain correspondence and extracts from the private journal of David Livingstone, hitherto unpublished, I: xxiv, 267. London, William Heinemann.
- OTTO, D.B.C., 1788. Die Meijerschen Abbildungen der Thiere grösstentheils mit den Thieren selbst verglichen, und nach dem Linné und andern Schriftstellern benannt. *Naturforscher*, 23: 175-200.
- OTTO, Eduard, 1903. Pflanze- und Jägerleben auf Sumatra: 185. Berlin, Wilhelm Süsserott.
- OUDEMANS, Johannes Theodorus, 1892. Die accessorischen Geschlechtsdrüsen der Säugetiere: vergleichend-anatomisch untersucht. *Natuurkundige verhandelingen van de Hollandsche maatschappij der wetenschappen*, Haarlem, (3) 5(2): i, 1-96, pls. 1-16.
- OUSTALET, E., 1900. La longévité chez les animaux vertébrés. *La Nature, Revue des sciences et de leurs applications aux arts et à l'industrie*, 28: 378-379.
- OWEN, Richard, 1845. Odontography; or, a treatise on the comparative anatomy of the teeth; their physiological relations, mode of development, and microscopic structure, in the vertebrate animals, I (text): xxi, lxxiv, 655. London, Hippolyte Baillière.
- , 1852. On the anatomy of the Indian rhinoceros (*Rh. unicornis*, L.). *Transactions of the Zoological society of London*, 4(2): 31-58, pls. 11-22.
- , 1868. On the anatomy of vertebrates, III: Mammals: x, 915. London, Longmans, Green and Co.
- OWEN, Richard, 1947. Black rhino and white. *Field*, 190: 300.
- OWEN, Richard Startin, 1894. The life of Richard Owen, I: (15), 409. London, John Murray.
- OWEN, T.R.H., 1949. The Nimule corridor. *Sudan wild life and sport*, 1(2): 33-36, 2 figs.
- , 1950. Notes from Bahr el Ghazal province. *Sudan wildlife and sport*, 1(4): 24-25.
- , 1956. The black and the white rhinoceros. *Uganda wildlife and sport*, 1(1): 27-31, pls. 5-6.
- OWEN-SMITH, Rupert Norman, 1971a. Rubbing stones. *African wildlife*, 25(3): 117, 1 fig.
- , 1971b. Territoriality in the white rhinoceros (*Ceratotherium simum*) Burchell. *Nature*, 231: 294-296, fig. 1.
- , 1972a. Dominance, territoriality and social organisation in the white rhinoceros (Abstract). *American Zoologist*, 12(4): 644.
- , 1972b. Territoriality: the example of the white rhinoceros. *Zoologica Africana*, 7(1): 273-280.

- , 1973. The behavioural ecology of the white rhinoceros: xxiii, 786. Unpublished thesis submitted...at the University of Wisconsin. (Abstract in: *Dissertation Abstracts International* (R. Sci. Eng.), 34(10): 5256-5257 (1974) - University Microfilms, order no. 74-3542.)
- , 1974a. Minisender decken Verhalten von Nashörnern auf. *Umschau in Wissenschaft und Technik*, 74(4): 119-120, 2 figs.
- , 1974b. The social system of the white rhinoceros. Pp. 341-351, pls. 1-5 in: V. Geist & F. Walther (eds.), *The behaviour of ungulates and its relation to management*. IUCN Special Publications 1(24).
- , 1975. The social ethology of the white rhinoceros *Ceratotherium simum* (Burchell 1817). *Zeitschrift für Tierpsychologie*, 38(4): 337-384, figs. 1-22.
- PAGDEN, H.T., 1965. Rhinoceros on Gunung Jerai. *Malayan nature journal*, 19(4): 239.
- PALLAS, Peter Simon, 1769. De ossibus Sibiriae fossilibus craniis praesertim rhinocerotum atque buffalorum, observationes. *Novi Commentarii Academiae scientiarum imperialis Petropolitanae*, 13: 436-477, pl. 10.
- , 1780. Additamentum. *Acta Academiae scientiarum imperialis Petropolitanae*, 1(2): 210-212, pl. 9.
- PALLEGOIX, Jean Baptiste, 1854. Description du royaume Thai ou Siam, comprenant la topographie, histoire naturelle, mœurs et coutumes, législation, commerce, industrie, langue, littérature, religion, annales des Thai et précis historique de la mission, t: i, 488. Paris, Mission de Siam.
- PALM, Erwin Walter, 1956. Dürer's Ganda and a XVI century apotheosis of Hercules at Tunja. *Gazette des Beaux-Arts*, 98: 65-74, figs. 1-8.
- PALMER, Tony, 1976. All you need is love: the story of popular music: xii, 323. London, Weidenfeld & Nicholson and Chappel.
- PANDER, Christian Heinrich & E. D'ALTON, 1821. Die Skelette der Pachydermata abgebildet, beschrieben und verglichen: iv, 26. (Der vergleichende Osteologie, erste Abteilung.) Bonn, Eduard Weber.
- PARAVEY, Charles Hippolyte de, 1848. Sur les diverses espèces de rhinocéros mentionnées dans les livres chinois. *Comptes Rendus hebdomadaires des Séances de l'Académie des sciences*, Paris, 26: 425.
- PARÉ, Ambroise, 1573. Deux livres de chirurgie...: xxii, 619. Paris, André Weckel.
- , 1604. De chirurgie, ende alle de Opera, ofte Wercken. Nu eerst uut de Fransoysche, in onse gemeyne Nederlantsche sprake, end uut de vierde editie, ghetrouwelick overgheset, door D. Carolus Battum. Leyden, Jan Bouwentz.
- PARKER, I.C.S. & Esmond Bradley MARTIN, 1979. Trade in African rhino horn. *Oryx*, 15(2): 153-158, 2 figs. (Table 3 was available in full from Fauna Preservation Society, 10 typed pp.).
- PARKYNS, Mansfield, 1854. Life in Abyssinia: being notes collected during three years' residence and travels in that country, II: 355. New York, D. Appleton & Co.
- PARSONS, B.T. & D.L.W. SHELDRIK, 1964. Some observations on biting flies (Diptera, Muscidae, sub-fam. Stomoxydinae) associated with the black rhinoceros (*Diceros bicornis* (L.)). *East African wildlife journal*, 2: 78-85, figs. 1-3.
- PARSONS, James, 1743. A letter from Dr. Parsons to Martin Folkes, Esq; president of the Royal Society, containing the natural history of the rhinoceros. *Philosophical transactions of the Royal Society*, 42 (470): 523-541, pls. 1-3.
- , 1747. Die natürliche Historie des Nashorns, welche von Doctor Parsons in einem Schreiben an Martin Folkes, Ritters und Präsidenten der Königlich-Englischen Societät abgefasst, mit zuverlässigen Abbildungen versehen, und aus dem Englischen in das Deutsche übersetzt worden von Doctor Georg Leonhart Huth: 16, pls. 1-3. Nürnberg, Stein und Raspe.
- , 1760. Lettre à M. Martin Folkes, Ecuyer, Président de de la Société Royale, contenant l'histoire du Rhinocéros. *Transactions philosophiques*, 42: 237-254, pls. I, I*, II, III.
- , 1766. A letter from James Parsons, M.D., F.R.S. to the Right Honourable the Earl of Morton, President of the Royal Society; on the the double horns of the rhinoceros.

- Philosophical transactions of the Royal Society*, 56: 32-34, pl. 2.
- , 1768. [Dr. P.'s discoveries concerning the rhinoceros justified.] *Gentleman's Magazine*, 38: 268-269.
- PASTEUR, J.D., 1793. *Beknopte natuurlijke historie der zoogende dieren*, 1: vi, 363. Leiden, Honkoop et du Mortier.
- PATERSON, William, 1790. A narrative of four journeys into the country of the Hottentots, and Caffaria, in the years 1777, 1778, 1779, 2nd ed. corrected; xii, 175. London, J. Johnson. (1st ed. 1789)
- PATTE, Etienne, 1934. Anomalies dentaires de quelques ongulés fossiles; remarques sur le cingulum et le tubercule de Carabelli. *Bulletin de la Société géologique de France*, (5) 4: 777-796, pl. 48.
- PAUL, Carl, 1893. Ein Besuch des zoologischen Garten zu Köln (Schluss). *Zoologische Garten*, (A.F.) 34 (11): 328-335.
- PAUSANIAS (2nd century). Description of Greece, IX. 21.2.
- PEACOCK, E.E., 1931. Burma: extracts from reports on game preservation, for year ending 31st March, 1931. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 15: 53-66.
- PEACOCK, Edgar Henry, 1931. The Schwe-u-Daung game sanctuary, Upper Burma, with a note on the Asiatic two-horned rhinoceros (*R. sumatrensis*). *Journal of the Bombay natural history society*, 35(2): 446-448, 1 pl.
- , 1933. A game-book for Burma & adjoining territories: the types, distribution and habits of large and small game, together with notes on game preservation, photography, tracking, still-hunting and the care and measurements of trophies: 292. London, H.F. & G. Witherby.
- PEARSON, H., C. GIBBS & A.I. WRIGHT, 1967. Surgical treatment of a case of rectal prolapse in a young African rhinoceros (*Diceros bicornis*). *Veterinary record*, 80: 519.
- PEARSON, J.T., 1840. Zoological catalogue of the museum of the Asiatic Society. *Journal of the Asiatic society of Bengal*, (N.S.) 9(1): 514-530.
- PEASE, Alfred Edward, 1908. Game and game reserves in the Transvaal. *Journal of the Society for the preservation of the wild fauna of the Empire*, 4: 29-34.
- PÉCAUD, G., 1925. Contribution à l'étude de la faune sauvage de la colonie du Tchad (mammifères et oiseaux). *Bulletin de la Société des recherches congolaises*, 6: 46-108.
- PEEL, Charles Victor Alexander, 1900. Somaliland, being an account of two expeditions into the far interior together with a complete list of every animal and bird known to inhabit that country, and a list of the reptiles collected by the author: xv, 345. London, F.E. Robinson & Co.
- , 1903. The zoological gardens of Europe: their history and chief features: xiv, 256. London, F.E. Robinson & Co.
- PEENEN, P.F.D. van, 1969. Preliminary identification manual for mammals of South Vietnam: i, vi, 310. Washington, United States national museum, Smithsonian institution.
- PELINCK, E. & B.N. UPRETI, 1972. A census of rhinoceros in Chitwan national park and Tamaspur forest: ii, 11, 1 map. Typed report, Nepal, National Parks and wildlife conservation Office, Department of Forest.
- PELLIOT, P., 1902. Mémoires sur les coutumes du Cambodge. *Bulletin de l'Ecole Française d'Extrême-Orient*, 2: 123-177.
- PENNANT, Thomas, 1771. Synopsis of quadrupeds: xxiii, 382. Chester, J. Monk.
- , 1781. History of quadrupeds, 1: i, xxiv, 566, xii. London, B. White.
- PENNI, Giovanni Giacomo, 1515. Forma e nature e costumi de lo Rinocerothe stato condotto im Portogallo dal Capitano de larmata del Re e altre cose condutte dalle insule nouamente trouate: iv. Rome, Stephanus Guilleretus. (One copy known, in Biblioteca Colombina, Seville; reproduced in de Matos 1960.)
- PERCIVAL, Robert, 1804. An account of the Cape of Good Hope; containing An historical view of its original settlement by the Dutch, its capture by the British in 1795, and the different policy pursued there by the Dutch and British governments. Also a sketch of its geography, productions, the manners and customs of its inhabitants, &c. &c. with a view of the political and commercial advantages which might be derived from its possession by

- Great Britain: xii, 339. London, C. & R. Baldwin.
- PERELAER, Michael Theophile Hubert, 1867. Twaalf honderd palen door Midden-Java. *Militaire Spectator*, (3) 12: 547-555.
- PERERIUS, Benedictus, 1606. *Commentariorum et disputationum in Genesim*, tomi quatuor: I, 1008, xvii. Coloniae Agrippinae, Antonij Hierati.
- PÉRINGUEY, Louis Albert, 1909. On rock-engravings of animals and the human figure, found in South Africa. *Transactions of the South African philosophical society*, 18: 401-419, pls. 7-15, 2 figs.
- PERIPLUS MARIS ERYTHRAEI (ca. 90-130). Recent edition: The Periplus of the Erythraean sea by an unknown author, translated and edited by G.W.B. Huntingford: xiv, 225. London. Hakluyt Society (Works, second series 151), 1980.
- PETERS, John P. & Hermann THIERSCH, 1905. Painted tombs in the necropolis of Marissa (Marêshah): xvii, 101. London, Palestine exploration fund.
- PETERS, Wilhelm Carl Hartwig, 1852. Naturwissenschaftliche Reise nach Mossambique auf Befehl seiner Majestät des Königs Friedrich Wilhelm IV, in den Jahren 1842 bis 1848 ausgeführt. Zoologie, I: Säugethiere: xvi, 202. Berlin, Georg Reimer.
- PETERS, W., 1856. Ueber eine neue durch ihre riesige Grösse ausgezeichnete Taenia. *Monatsberichte der königlichen Preussischen Akademie der Wissenschaften zu Berlin*, 1856: 469.
- , 1871. Note on the Taenia from the rhinoceros, lately described by Dr. J. Murie. *Proceedings of the Zoological society of London*, 1871: 146-147, figs. 1-2.
- , 1877. Ueber Rhinoceros inermis Lesson. *Monatsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin*, 1877: 68-71, pls. 1-3.
- PETIS DE LA CROIX, François, 1723. Histoire de Timur-Bec, connu sous le nom du Grand Tamerlan, empereur des Mogols et Tartares: écrit en Persan par Cherefeddin Ali, natif d'Yezd, auteur contemporain, traduit en François, III: I, 421. Delft, Reinier Boitet.
- PETRASANCTA, Silvestrus, 1687. *Symbola Heroica*. Amstelaedami.
- PETRI, Georg Christoph von Hartenfels, 1723. *Elephantographia curiosa*, editio altera auctior et emendata: xxx, 284, 20, xix. Lipsiae & Erfordiae, Joh. Mich. Funckii.
- PETZOLD, Hans-Günther, 1961. Im Tierpark Berlin 1956 erstmalig gehaltene Tierformen. *Milu*, Berlin, 1(2): 57-78, figs. 1-24.
- , 1965. Im Tierpark Berlin 1961 erstmalig gehaltene Tierformen. *Milu*, Berlin, 2(1): 68-107, figs. 1-43.
- , 1968. Im Tierpark Berlin 1964 erstmalig gehaltene Tierformen. *Milu*, Berlin, 2(4): 375-410, figs. 1-41.
- , 1969. Im Tierpark Berlin 1966 erstmalig gehaltene Tierformen. *Milu*, Berlin, 2(6): 619-638, figs. 1-22.
- PETZSCH, Hans, 1930. Tierdarstellungen auf Münzen im Wandel der Zeiten. *Münzsammler*, 3(35/36): 138-143, figs. 1-8.
- , 1935. Das erste Indische Nashorn in Deutschland. *Aus der Heimat*, Stuttgart, 48(12): 372-374, fig. 1.
- , 1954. Das erste in Deutschland zur Schau gestellte Nashorn. *Natur und Heimat*, 3(2): 50-53, figs. 1-5.
- , 1961. Ein kleiner historischer Nachtrag zu Erna Mohr: 'Das Horn des Indischen Rhinoceros unicornis.' *Zoologische Garten*, (N.F.) 26(1/2): 110-111.
- PETERUS, Johannus Conradus, 1685. *Merycologia sive de ruminantibus et ruminacione commentarius*: viii, 288, index. Basileae, Joh. Ludovicus Koernig & Joh. Brandmullerus.
- PREFFER, Pierre, 1958. Situation actuelle de quelques animaux menacés d'Indonésie. *Terre et la vie*, 105(2): 128-145, pls. 4-7, 1 map.
- , 1963. Bivouacs à Bornéo: 252. Paris, Flammarion.
- , 1981. Conservation of rhino, Cameroon. *World Wildlife Fund Yearbook*, 1980-81: 314-317.
- PHAM-HOÀNG-HỒ, 1968. Plan for the conservation of nature in Vietnam. *IUCN Publications*, (N.S.) 10: 407-409.
- PHILIPPE, (?), 1669. Voyage d'Orient, où il décrit les divers succez de son voyage, plusieurs régions d'Orient, leurs montagnes, leurs mers & leurs fleuves, la chronologie des princes qui

- y ont dominé, leurs habitants, tant chrétiens qu'infidèles: unpag., 592. Lyons, Antoine Iullieron.
- PHILOSTRATUS, Flavius (1st century). 1883. Apollonius von Tyana. Aus dem Griechischen des Philostratus übersetzt und erläutert von Eduard Baltzer: iv, 403. Rudolstadt i/Th., H. Hartung & Sohn.
- PHILY, (?), 1934. Dans la brousse du Sud-Annam. *Bulletin de la Société nationale d'acclimatation de France*, 81: 280-284.
- PHIPSON, Emma, 1883. The animal-lore of Shakspeare's time, including quadrupeds, reptiles, fish and insects: xvi, 476. London, Kegan Paul, Trench & Co.
- PHOTIUS, patriarch of Constantinople (9th century). Myrobiblon sive Bibliotheca. In: J.P. Migne, *Patrologiae cursus completus Graecae*, vol. 104.
- PIAZZINI, Guy, [1963?]. Expeditie Apokajan: naar waranen en dajaks: 223. Amsterdam, Uitgeversmaatschappij Holland.
- PIENAAR, U. de V., 1963. The large mammals of the Kruger national park: their distribution and present-day status. *Koedoe*, 6: 1-37, figs. 1-36.
- , 1970. The recolonisation history of the square-lipped (white) rhinoceros *Ceratotherium simum simum* (Burchell) in the Kruger national park (October 1961-November 1969). *Koedoe*, 13: 157-169, pls. 1-4, figs. 1-4.
- , J.W. van NIEKERK, E. YOUNG, P. van WYK & N. FAIRALL, 1966. Neuroleptic narcosis of large wild herbivores in South African national parks with the new potent morphine analogues M-99 and M-183. *Journal of the South African veterinary medical association*, 37(3): 277-291, figs. i-xiii.
- PINTO, João do Amaral Abranches, Yoshitomo OKAMOTO & Henri BERNARD (eds.), 1942. La première ambassade du Japon en Europe 1582-1592. Première partie: le traité du père Frois (texte portugais): v, lvi, 268, xiii. Tokyo, Sophia university (Monumenta Nipponica monographs, 6).
- PITMAN, Charles Robert Senhouse, 1943. A game warden among his charges: 192. Harmondsworth, Penguin books 448. (1st ed. 1931).
- , 1956. Weapons of the two African rhinoceroses. *Oryx*, 3(4): 195-196.
- PLAYER, Ian C., 1962. Square-lipped rhinoceros, *Ceratotherium simum* (Note on feeding, no. 30). *Lammergeyer*, 2(1): 67.
- , 1967. Translocation of white rhinoceros in South Africa. *Oryx*, 9(2): 137-150, pls. 22-29.
- , 1972. The white rhino saga: 254. London, Collins.
- & J.M. FEELY, 1960. A preliminary report on the square-lipped rhinoceros *Ceratotherium simum simum*. *Lammergeyer*, 1(1): 3-24, 4 figs, maps 1-3.
- PLINUS SECUNDUS, Gaius (23-79). *Naturalis Historia*, VI, xxxiv, 4 and VIII, xxix, 71.
- PLUS, J., M. van den AKKER & H.E. MULLER, 1974. Dieren op tegels: 128, figs. 1-465. Lochem: de Tijdstroom. (Also in: *Mededelingenblad van de Vrienden van de Nederlandse ceramiek*, 75/76.)
- POCOCK, Reginald Innes, 1912. The Zoological Society: death of two rhinoceroses; measurements of Indian rhinoceros; some characters of rhinoceroses. *Field*, 119: 143, 5 figs.
- , 1914. On the facial vibrissae of Mammalia. *Proceedings of the Zoological society of London*, 1914(2): 889-912, figs. 1-13.
- , 1915. The two-horned Asiatic rhinoceros. *Field*, 23 October 1915: 709, 2 figs.
- , 1928a. Kathleen, the rhinoceros calf. *Field*, 152: 203, 1 fig.
- , 1928b. The Sumatran rhinoceros. *Field*, 151: 338, 1 fig.
- , 1944a. The identity of the genotype of *Rhinoceros* Linn. *Annals and Magazine of natural history*, (11) 11: 616-618.
- , 1944b. The premaxillae in the Asiatic rhinoceroses. *Annals and Magazine of natural history*, (11) 11: 834-842, figs. 1-2.
- , 1945a. The nasal septum in existing Asiatic rhinoceroses. *Annals and Magazine of natural history*, (11) 12: 341-344, fig. 1.
- , 1945b. Some cranial and dental characters of the existing species of Asiatic rhinoceroses. *Proceedings of the Zoological society of London*, 114: 437-450, figs. 1-5.
- , 1946a. Some structural variations in the second upper premolar of the lesser one-horned rhinoceros (*Rhinoceros sondaicus*). *Proceedings of the Zoological society of London*, 115 (3/4): 306-309, fig. 1.

- , 1946b. External and cranial characters of some rare Asiatic mammals recently exhibited by the Society. *Proceedings of the Zoological society of London*, 115 (3/4): 310-318, 1 fig.
- , 1946c. A sexual difference in the skull of Asiatic rhinoceroses. *Proceedings of the Zoological society of London*, 115 (3/4): 319-322.
- PÖPPIG, Eduard Friedrich, 1851. *Illustrirte Naturgeschichte des Thierreichs: Anatomie, Physiologie und Geschichte der Säugethiere, der Vögel, der Lurche, der Fische und der Wirbellosen Thiere, I: Naturgeschichte der Säugethiere*: i, viii, 4, 312. Leipzig, J.J. Weber.
- POLACEK, John F., 1973. A supplement to 'Circus Rhinos' in *Bandwagon* Nov.-Dec. 1968. *Bandwagon*, Jan-Feb. 1973: 19.
- POLAK, B., 1933. Een Javaansch natuurmonument. *Natuur en techniek*, 3: 408-415.
- POLES, W.E., 1956. Animal ways, from notes made in the Luangwa valley, Northern Rhodesia. *Oryx*, 3(5): 246-254, 4 pls.
- POLITIANUS, Angelus, 1524. *Miscellaneorum centuria una*: unpag., fols. 189. Coloniae Agrippinae, Heronem Alopecium.
- POLLOCK, Fitz William Thomas, 1879. Sport in British Burmah, Assam, and the Cassyah and Jyntiah hills: with notes of sport in the hilly districts of the Northern division, Madras presidency, indicating the best localities in those countries for sport, with natural history notes, illustrations of the people, scenery, and game, together with maps to guide the traveller or sportsman, and hints on weapons, fishing-tackle, etc., best suited for killing game met with in those provinces, I: xv, 253; II: vii, 230. London, Chapman and Hall.
- & William Sinclair Thom, 1900. *Wild sports of Burma and Assam*: xx, 507. London, Hurst & Blackett.
- POLO, Marco, 1958. *The travels*, translated and with an introduction by Ronald Latham: 380. Harmondsworth, Penguin books.
- POMEL, Nicolas Auguste, 1853. Catalogue méthodique et descriptif des vertébrés fossiles découverts dans le bassin hydrographique supérieur de la Loire, et surtout dans la vallée de son affluent principal, l'Allier (suite). *Annales scientifiques, littéraires et industrielles de l'Auvergne*, 26: 81-176.
- POMET, Pierre, 1694. *Histoire generale des drogues, traitant des plantes, des animaux, & des mineraux*... avec un discours qui explique leur differens noms, les pays d' où elles viennent, la maniere de connoître les veritables d'avec les falsifiées, & leurs proprietés, où l'on découvre l'erreur des anciens & des modernes; le tout tres utile au public: xiii, 304, 108, 116, xxxvii. Paris, Jean Baptiste Loyson & Augustin Pillon.
- PONCINS, Edmond de, 1935. A hunting trip in the Sunderbunds in 1892. *Journal of the Bombay natural history society*, 37(4): 844-858, pls. 1-4.
- PORTHELIJE, A.F.J., 1940. Apen en hoefdieren in Artis: 78. Zaandam, Verkade.
- POST, Laurens van der, 1974. Saving the white rhino from near-extinction. *Christian science monitor*, Jan. 9, 1974: F1, 2 figs.
- POSTEL, Raoul, 1887. *A travers la Cochinchine*: viii, 332. Paris, Challamel Aîné.
- POTOCKI, Józef, 1897. *Notatki myśliwskie z Afryki: Somali*: 134. Warszawa, Wolff.
- , 1900. Sport in Somaliland: being an account of a hunting trip to that region. Translated from the Polish by Jeremiah Curtin: vi, 140. London, Rowland Ward.
- POTTER, H.B., 1947. Rhino—black or white. *Field*, 190: 384-385, 2 figs.
- , 1949. Rhino as we know them. *African wildlife*, 3(2): 128, 137.
- POUCHET, Henri Charles Georges & H. BEAUREGARD, 1889. *Traité d'ostéologie comparée*: iii, xviii, 464. Paris, G. Masson.
- POULSEN, Holger, 1973. 1972 at the Copenhagen zoo. *International zoo news*, 20(7/8): 274-275.
- POURNELLE, George H., 1963a. Rhinos... big news in a brief letter. *Zoonoos*, San Diego, 36(1): 3-5, 4 figs.
- , 1963b. Rhinoceros... a vanishing animal. *Zoonoos*, San Diego, 36(12): 10-15, 7 figs.
- , 1965. Another Indian rhinoceros. *Zoonoos*, San Diego, 38(4): 5-7, 5 figs.
- , 1969. A ton of rhino. *Zoonoos*, San Diego, 42(7): 12, 1 fig.
- POUSARGUES, Eugène de, 1897. *Etude sur les mammifères du Congo français (suite)*. *Annales des sciences naturelles (Zoologie et paléontologie)*, (8) 4: 1-150, maps 13-25.
- , 1904. Mammifères de l'Indo-Chine. Pp. 510-549 in: Auguste Pavie (ed.), *Mission Pavie*

- Indo-Chine 1879-1895, Etudes diverses, III: Recherches sur l'histoire naturelle de l'Indo-Chine orientale: xxi, 549. Paris, Ernest Leroux.
- POWELL-COTTON, Percy Horace Gordon, 1907. A journey through the Eastern portion of the Congo state. *Geographical journal*, London, 30(4): 371-384, 7 figs.
- PRASHAD, Beni, 1936. Animal remains from Harappa. *Memoirs of the Archaeological survey of India*, 51: i-iii, 1-76, pls. 1-7.
- PRATER, Stanley Henry, 1939. Additional notes on the Asiatic two-horned rhinoceros. *Journal of the Bombay natural history society*, 40(4): 618-627.
- , 1965. The book of Indian animals, 2nd ed.: xxii, 323. Bombay, Bombay natural history society and Prince of Wales museum of W. India.
- PRIEMEL, K., 1930. Nachrichten aus Frankfurt (Main). *Zoologische Garten*, (N.F.) 2(10/12): 352, 2 figs.
- PRYER, William Burgess, 1881. Animal life in Borneo. *Zoologist*, (3) 5: 393-398.
- , 1886. Handbook of British North Borneo: Colonial and Indian exhibition: 159. London, W. Clowes & Sons.
- PSEUDO-CALLISTHENES, (ca. 200), 1969. The romance of Alexander the Great. Translated from the Armenian with an introduction by Albert Murgdich Wolohojian: xi, 196. New York/London, Columbia university press.
- PUNT, Hendrik, 1977. Bernard Siegfried Albinus (1697-1770) und die anatomische Perfektion. *Medizin historisches Journal*, 12(4): 325-345, figs. 1-6.
- PYRARD, François, 1619. Voyage, contenant sa navigation aux Indes Orientales, Maldives, Moluques, Bresil: les divers accidens, adventures & dangers qui luy sont arrivez en ce voyage, tant en allant & retournant, que pendant son séjour de dix ans en ce païs là: avec la description des pays, mœurs, loix, façons de faire, police & gouvernement; du trafic & commerce qui s'y fait, des animaux, arbres, fruits & autres singularitez, divisé en deux parties, Troisième et dernière édition, I: x, 366, index; II: xi, 446, index. Paris, Samuel Thibault & la veufue Remy Dallir.
- AL-QAZWINI, Hamdullah al-Musta'fi, 1928. The zoological section of Nuzhatu-L-Qulub of —, edited, translated and annotated by J. Stephenson: xix, 100 + arabic text. London, Royal Asiatic Society.
- 'R.', 1963. Vom Breitmaul- und Spitzmaul-Nashorn (*Ceratotherium simum* und *Diceros bicornis*) in Südwestafrika. *Mitteilungen der Süd-West Afrika-Wissenschaftliche Gesellschaft*, 4(3): 1-2.
- N.D.L.R., 1958. Naissances de *Rhinoceros unicornis* en captivité. *Terre et la vie*, 105: 220-221.
- RADERUS, Matthaeus, 1611. Ad M. Valerii Martialis epigrammaton libros omnes, plenis commentariis, novo studio confectis, explicatos, emendatos, illustratos: xxx, 1078, index. Ingolstadtii, Adamus Sartorius.
- RAFFLES, Thomas Stamford, 1822. Descriptive catalogue of a zoological collection made on account of the Honourable East India Company, in the island of Sumatra and its vicinity; with additional notices illustrative of the natural history of those countries. *Transactions of the Linnean society of London*, 13: 239-274.
- , 1830. Memoir of the life and public services of Sir... particularly in the government of Java, 1811-1816, and of Bencoolen and its dependencies, 1817-1824; with details of the commerce and resources of the Eastern archipelago, and selections from his correspondence, by his widow: xvi, 723, 100. London, John Murray.
- RAFINESQUE-SCHMALTZ, Constantine Samuel, 1815. Analyse de la nature, ou tableau de l'univers et des corps organisés: 224. Palerme, L'auteur.
- RAINEY, H. James, 1878. Note on the absence of a horn in the female of the Sundarban rhinoceros and Javanese rhinoceros (*Rh. Javanicus*, Cuv.). *Proceedings of the Asiatic society of Bengal*, June 1878: 139-141.
- RANGE, Paul Theodor, 1914. Beiträge und Ergänzungen zur Landeskunde des deutschen Namalandes. *Abhandlungen des Hamburgischen Kolonialinstituts*, 30: i-x, 1-120, figs. 1-27, maps 1-5.

- RAO, H. Srinivasa, 1957. History of our knowledge of the Indian fauna through the ages. *Journal of the Bombay natural history society*, 54(2): 251-280, pls. 1-2.
- RAPPARD, W.F., 1936. Naar de nieuwe meren van Soeoh (II). *Tropische natuur*, 25(7): 108-113, 10 figs.
- RAPSCH, H., 1964. Brüllen Spitzmaulnashörner? *Mitteilungen der Süd West Afrika-Wissenschaftliche Gesellschaft*, 5(9): 5-6.
- RAUTENBACH, I.L., 1971. Observations on mammals of the Eastern Caprivi strip. *Transvaal museum bulletin*, 11: 5-6, 1 map.
- RAUWOLF, LEONHARD, 1771. Aigentliche Beschreibung der Raiss inn die Morgenlaender (Einleitung von Dietmar Henze): xxxiii, xv, 487. Graz, Akademische Druck- und Verlagsanstalt (Frühe Reisen und Seefahrten in Originalberichten, vol. 9). (Original 1582) (Translated by John Ray, 1738. A collection of curious travels and voyages containing Dr. Leonhart Rauwolf's journey into the Eastern countries etc., 2nd ed., II: xii, 489. London, J. Walthoe etc.).
- RAVEN, Henry Cushier, 1935. Wallace's line and the distribution of Indo-Australian mammals. *Bulletin of the American museum of natural history*, 68(4): i-ii, 179-284, 1 map.
- RAVEN HART, Rowland, 1971. Cape Good Hope 1652-1702: the first fifty years of Dutch colonisation as seen by callers, I: xv, 222, II: xiii, 223-527. Cape Town, A.A. Balkema.
- RAVENSTEIN, Ernest George, 1908. Martin Behaim, his life and his globe: viii, 122. London, George Philip & Son.
- RAWITZ, Bernhard, 1894. Ueber ramificirte Darmzotten. *Anatomischer Anzeiger*, 9: 214-216, figs. 1-2.
- RAWLINS, Colin Guy Champion, 1979. The breeding of white rhinos in captivity- a comparative survey. *Zoologische Garten*, (N.F.) 49(1): 1-7, fig. 1.
- RAY, John, 1693. Synopsis methodica animalium quadrupedum et serpentini generis: vulgarum notas characteristics, rariorum descriptiones integras exhibens: cum historiis & observationibus anatomicis perquam curiosis: xiv, 336, viii. London, S. Smith & B. Walford.
- REDEKER, Gien, 1982. Ik ben Sai Taro. *Artis*, Amsterdam, 27(2): 152-153, 1 fig. (drawn by Carry Schotman).
- REDI, Francesco, 1671. Esperienze intorno a diverse cose naturali e particolarmente a quelle, che ci son portate dall'Indie: iv, 152. Firenze, Insegna della Nave.
- , 1685. Experimenta circa varias res naturales, speciatim illas quae ex Indiis afferuntur: iv, 312, xxxiii. Amstelædami, Henr. Wetstenius.
- REED, Theodore H., 1968. National zoological park. *Annual report of the Smithsonian institution for the year ended 30 June 1968*: 403-418.
- , 1969. National zoological park. *Annual report of the Smithsonian institution for the year ended 30 June 1969*: 245-269.
- , 1974a. Indian rhinoceros born. *AAZPA Newsletter*, 15(3): 4 and *International zoo news*, 21(2): 54.
- , 1974b. Indian rhinoceros born. *International zoo news*, 21(3): 124.
- REGNAULT, Jules, 1902. Médecine et pharmacie chez les Chinois et chez les Annamites: x, 233. Paris, A. Challamel.
- REID, E.T.M., 1952. Game notes from Yei and Moru districts. *Sudan wildlife and sport*, 2(3): 29-39, 1 map.
- REINACH, Lucien de, [n.d.]. Le Laos: vii, 392. Paris, E. Guilmoto.
- REINACH, S., 1913. Le rhinocéros de Pompéi. *Revue archéologique*, (4) 21: 105-106.
- REINAUD, Joseph Toussaint, 1845. Relation des voyages faits par les Arabes et les Persans dans l'Inde et à la Chine dans le IX^e siècle de l'ère chrétienne, I: iii, cxxx, 154; II: 105 + facsimile. Paris, Imprimerie Royale.
- REINHARD, Laurentius, 1748. Unumstösslicher Beweis, dass der Rhinoceros oder das Nashorn unmöglich könne der Behemoth seyn, dessen Hiob XL. 10. sqq. Meldung geschicht: 12. Jena, Johann Friedrich Rittner.
- REINHARDT, Ludwig, 1912. Kulturgeschichte der Nutztiere: vi, 760. München, Ernst Reinhardt.
- REINWARDT, Caspar Georg Carl, 1822. Account of Professor's Reinwardt's journey through

- the Preanger regencies in Java, *Edinburgh Philosophical journal*, 7: 28-35.
- , 1823. Over de hoogte en verdere natuurlijke gesteldheid van eenige bergen, in de Preanger regentschappen. *Verhandelingen van het Bataviaasche genootschap van kunsten en wetenschappen*, 9: 1-37.
- REISNER, George Andrew, 1923. Excavations at Kerma, Cambridge, Mass., Peabody museum of Harvard university (Harvard African studies, 6, parts 4-5).
- RENNEFORT, Urbain Souchu de, 1702. Memoires pour servir à l'histoire des Indes Orientales contenant une description des isles du Cap Verd, du Sainte Helene, du Cap de Bonne-Esperance, de l'isle de Madagascar, de l'Isle de Ceylon, & generalement de toutes les Indes Orientales: viii, 571. Paris, Société.
- RENSHAW, Graham, 1904. Natural history essays: xv, 218. London/Manchester, Sherratt & Hughes.
- REITTERER, Edouard & Henri NEUVILLE, 1916. De la rate du rhinocéros et du tapis. *Comptes Rendus des Seances de la Société de biologie*, 79(7): 267-270.
- REUTHER, Ronald T., 1972. Rhinoceros data. *AZPA Newsletter*, 13(4): 5-6.
- REYNOLDS, E.A.P., 1954. Burma rhino. *Burmese Forester*, 4(2): 104-108.
- REYNOLDS, Richard John III, 1961a. Asian rhinos in captivity. *International Zoo Yearbook*, 2: 17-42.
- , 1961b. White rhinos in captivity. *International Zoo Yearbook*, 2: 42-43.
- , 1961c. Javan rhino in the Berlin zoo. *International zoo news*, 8(3): 76-77.
- , 1961d. Pittsburgh-U.S.A. *International zoo news*, 8(1): 25.
- , 1961e. Cincinnati-U.S.A. *International zoo news*, 8(4): 117.
- , 1961f. Jacksonville-U.S.A. *International zoo news*, 8(4): 118-119.
- , 1962a. Rangoon, Burma. *International zoo news*, 9(2): 54.
- , 1962b. Death of oldest Indian rhinos. *International zoo news*, 9(4): 99.
- , 1962c. White rhinos arrive in the U.S.A. *International zoo news*, 9(5): 126.
- , 1963a. The black rhinoceros, *Diceros bicornis*, in captivity. *International Zoo Yearbook*, 4: 98-113.
- , 1963b. Pittsburgh-Penn.-U.S.A. *International zoo news*, 10(3): 95.
- , 1964a. 14 Rhinos for American zoos in 1963. *International zoo news*, 11(1): 8-9.
- , 1964b. Indian rhino in Portland zoo. *International zoo news*, 11(4): 119.
- , 1965a. Memphis zoo exhibits four rhinos. *International zoo news*, 12(2): 45.
- , 1965b. Pittsburgh-Penn.-U.S.A. *International zoo news*, 12(5): 219.
- , 1967a. Some photographs of rhinos exhibited by American circuses between 1855 and 1926. *Zoologische Garten*, (N.F.) 34(6): 279-292, figs. 1-5.
- , 1967b. Black rhinos born in Kansas City and Washington. *International zoo news*, 14(5): 143.
- , 1968a. Circus rhinos. *Bandwagon*, 12(6): 4-13, figs. 1-14 + 4.
- , 1968b. Atlanta-Georgia-U.S.A. *International zoo news*, 16(1): 19.
- , 1970. Circus rhinos, part II. *Bandwagon*, 14(6): 4-13, figs. 1-19.
- , 1971. Asian rhinos. *Karatasi Yenyé Habari*, Kingsport, 19(2): 12-15, 2 figs.
- , 1976. Ringling-Barnum's rhino cages. *Little circus wagon*, 39(1): 6-7, figs. 1-3.
- , 1982. Bobby the rhinoceros ends lengthy rhino-less run under RBBB tent. *White Tops*, 55(2): 23-24, 1 fig.
- RICHARD, Louis, 1908. Comprehensive geography of the Chinese empire and dependencies. Translated into English, revised and enlarged by M. Kennelly: iii, xviii, 713. Shanghai, T'Usewei press.
- RICHTER, Wolfgang von, 1973. Black and square-lipped rhinoceroses in Botswana. *Biological conservation*, 5(1): 59-60, fig. 1.
- RIDINGER, Johann Elias, 1768. Genaue und richtige Vorstellung der wundersamsten Hirschen sowohl als anderer besonderlichen Thiere, welche von grossen Herren selbst gejagt, geschossen, lebendig gefangen oder gehalten worden: 100. Augsburg, Ridinger.
- RIDLEY, Henry Nicholas, 1894. List of mammals recorded from Pahang. *Journal of the Straits branch of the Royal asiatic society*, 25: 57-60.
- , 1895. The mammals of the Malay peninsula, part III. *Natural science*, 6: 161-166.
- , 1900. A botanical excursion to Gunung Jerai (Kedah peak). *Journal of the Straits branch of the Royal asiatic society*, 34: 23-30.

- , 1901. The Sumatran rhinoceros. *Journal of the Straits branch of the Royal Asiatic Society*, 35: 105-106.
- , 1906. The menagerie at the Botanic gardens. *Journal of the Straits branch of the Royal Asiatic Society*, 46: 133-194.
- RIEBECK, Jan Anthonisz. van, 1952-57. Dagregister (aanteekeningen door D.B. Bosman en H.B. Thom), I, 1651-1655: xlvii, 473 (1952); II, 1656-1658: xii, 491 (1955); III, 1659-1662: xvi, 584 (1957). Cape Town, A.A. Balkema for the Van Riebeeck Vereniging.
- RIETH, Adolf, 1974. Albrecht Dürer und das Nashornbild des 16. und 17. Jahrhunderts. *Kunst und das schöne Heim*, 86(2): 85-88, figs. 1-13.
- RINGSTRÖM, Torsten, 1924. Nashörner der Hipparion-Fauna Nord-Chinas. *Palaeontologia Sinica*, (series C) 1(4): i-iii, 1-156, pls. 1-12, figs. 1-92.
- RIPLEY, Sidney Dillon, 1952. Territorial and sexual behaviour in the Great Indian rhinoceros, a speculation. *Ecology*, Lancaster, 33(4): 570-573, fig. 1.
- , 1958. Comments on the black and square-lipped rhinoceros species in Africa. *Ecology*, Lancaster, 39(1): 172-174.
- , 1966. De dierenwereld van Tropisch Azië: 200. Amsterdam, Het Parool (Parool/Life natuurserie, translated by H.J. de Jongh). (Original in English, Amsterdam 1964)
- RITCHIE, A.T.A., 1931. Kenya colony: Game department report, 1930: extracts. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 15: 67-84.
- , 1963. The black rhinoceros (*Diceros bicornis* L.). *East African wildlife journal*, 1: 54-62, 2 figs.
- RITTER, Carl, 1834. Die Erdkunde in Verhältniss zur Natur und zur Geschichte des Menschen, oder allgemeine vergleichende Geographie, als sichere Grundlage des Studiums und Unterrichts in physicalischen und historischen Wissenschaften, IV. Teil, II. Buch: Asien III: xx, 1244. Berlin, G. Reimer.
- ROBERTS, Austin, 1951. The mammals of South Africa: xlviii, 700. Johannesburg, Book Fund.
- ROBERTS, T.J., 1977. The mammals of Pakistan: xxvi, 361. London & Tonbridge, Ernest Benn.
- ROBIN, Percy Ansell, 1932. Animal lore in English literature: ix, 196. London, John Murray.
- ROBINSON, Herbert Christopher & Cecil Boden KLOSS, 1918. Results of an expedition to Korinchi peak, 12,400 ft., Sumatra, part II: Vertebrates: list of the mammals of Sumatra. *Journal of the Federated Malay states museums*, 8(2): 73-80.
- & —, 1923. Mammals of Korinchi and of Sumatra: addenda and corrigenda. *Journal of the Federated Malay states museum*, 8(2): 312-319.
- ROCHAT, Ken & Nick STEELE, 1968. Operation Rhodesian rhino: the translocation of square-lipped rhinoceroses from the Umfolozi game reserve in the Republic of South Africa to the Parks and Nature reserves of Rhodesia. *Lammergeyer*, 8: 15-24.
- RODE, Paul, 1944. Faune de l'Empire française, II: Mammifères ongulés de l'Afrique noire, deuxième partie: iii, 125-211. Paris, Larousse.
- RODHAIN, J. & J. BEQUAERT, 1918. Matériaux pour une étude monographique des Diptères parasites de l'Afrique, III: Diptères parasites de l'éléphant et du rhinocéros. *Bulletin biologique de la France et de la Belgique*, 52: 379-465, pl. 3, figs. 1-21.
- ROETHLISBERGER, Marcel, 1967. La teneur de la licorne dans la Collection Borromée. *Oud-Holland*, 82(3): 85-115, figs. 1-41.
- ROHLFS, Friedrich Gerhard, 1874. Quer durch Afrika: Reise vom Mittelmeer nach dem Tschad-See und zum Golf von Guinea, I: x, 352. Leipzig, F.A. Brockhaus.
- ROHR, Wolfgang, 1959. Sorgen um Nepals Einhorn. *Orion, Zeitschrift für Wissenschaft und Technik*, 14: 955-959, 8 figs.
- RONEY, Ernest E. Jr., 1972. White rhino birth at San Antonio. *AAZPA Newsletter*, 13(11): 5 and *International zoo news*, 19(6): 215.
- ROOKMAAKER, Leendert Cornelis, 1973a. Sumatran rhinoceros 'Subur' died. *AAZPA Newsletter*, 14(1): 6.
- , 1973b. Breeding of the rhinoceros in zoological gardens. *AAZPA Newsletter*, 14(3): 5-8.
- , 1973c. Captive rhinoceroses in Europe from 1500 until 1810. *Bijdragen tot de Dierkunde*, 43(1): 39-63, figs. 1-13.

- , 1976a. An early engraving of the black rhinoceros (*Diceros bicornis* (L.)) made by Jan Wandelaar. *Biological journal of the Linnean society*, 8(1): 87-90, pls. 1-2.
- , 1976b. Vossius en de rhinoceros. *Vulpes, orgaan van de Gymnasiasten Bond Vossius*, jubileumnummer ter gelegenheid van het 10e lustrum van het Vossius Gymnasium te Amsterdam (1926-1976), bijblad: 4-5.
- , 1977a. The identity of the one-horned rhinoceros in Berlin 1874-1884. *International zoo news*, 24(2): 15.
- , 1977b. Rhinoceros and man in Borneo. *Sarawak museum journal*, 24: 293-298 (dated 1976).
- , 1977c. The rhinoceros of Borneo: a 19th century puzzle. *Journal of the Malaysian branch of the Royal asiatic society*, 50(1): 52-62, pls. 1-6.
- , 1977d. The distribution and status of the rhinoceros, *Dicerorhinus sumatrensis*, in Borneo - a review. *Bijdragen tot de Dierkunde*, 47(2): 197-204, fig. 1.
- , 1978a. De neushoorn van 1741. *Ons Amsterdam*, 30(1): 16-17, 3 figs.
- , 1978b. Two collections of rhinoceros plates compiled by James Douglas and James Parsons in the eighteenth century. *Journal of the Society for the bibliography of natural history*, 9(1): 17-38, figs. 1-7.
- , 1979. The first birth in captivity of an Indian rhinoceros (*Rhinoceros unicornis*): Kathmandu, May 1824. *Zoologische Garten*, (N.F.) 49(1): 75-77, fig. 1.
- , 1980a. Vroege neushoorns levend in Europa. *Panda*, 16(5): 67-69, 2 figs.
- , 1980b. The distribution of the rhinoceros in Eastern India, Bangladesh, China, and the Indo-Chinese region. *Zoologischer Anzeiger*, 205(3/4): 253-268, figs. 1-2.
- , 1980c. Big rhino for the rhino [in Dutch]. *Drah*, Subfaculteit biologie van de Vrije Universiteit, Amsterdam, 32: 23-26, 2 figs.
- , 1981. Early rhinoceros systematics. Pp. 111-118 in: Alwyne Wheeler & James H. Price (eds.), *History in the service of systematics: papers from the conference to celebrate the Centenary of the British Museum (Natural History) 13-16 April, 1981*. London, Society for the bibliography of natural history (Special Publication, no. 1).
- , 1982. A story of horns: early views on rhinoceros classification. *Zoomooz*, San Diego, 55(4): 4-10, 16 figs.
- & Colin P. GROVES, 1978. The extinct Cape rhinoceros, *Diceros bicornis bicornis* (Linnaeus, 1758). *Säugetierkundliche Mitteilungen*, 26(2): 117-126, fig. 1.
- & R.P.M. VISSER, 1982. Petrus Camper's study of the Javan rhinoceros (*Rhinoceros sondaicus*) and its influence on Georges Cuvier. *Bijdragen tot de Dierkunde*, 52(2): 121-136, figs. 1-8.
- ROORDA VAN EYSINGA, P.P., 1843. Indië, ter bevordering der kennis van Nederlands Oostersche bezittingen, III, deel I: vi, 560. Breda, Nijs.
- ROORDA VAN EYSINGA, Sytse, 1831. Verschiedene reizen en lotgevallen, tweede deel: viii, 408. Amsterdam, Johannes van der Hey en zoon.
- ROOSEVELT, Theodore, 1910a. African game trails: an account of the African wanderings of an American hunter-naturalist: xvii, 534. London, John Murray.
- , 1910b. African game trails: an account of the African wanderings of an American hunter-naturalist, XII: The great rhinoceros of the Lado. *Scribner's Magazine*, 48(3): 257-290, 35 figs, 1 map.
- & Edmund HELLER, 1915. Life histories of African game animals, II: x, 420-798. London, John Murray.
- ROSEN, Björn von, 1953. Game animals of Ethiopia: a short guide for hunters and animal lovers, illustrated and giving the names of each animal in the principal Ethiopian languages: 93. Addis Abeba, Swedish-Ethiopian Co.
- ROSENBERG, C.B. Hermann von, 1878. Der Malayische Archipel: Land und Leute in Schilderungen, gesammelt während eines dreissigjährigen Aufenthaltes in den Kolonien: iii, xvi, 615. Leipzig, Gustav Weigel.
- ROSEVEAR, Donald Reginald, 1939. The hoofed mammals of Nigeria. *Nigerian Field*, 8(3): 104-107.
- , 1953. Checklist and atlas of Nigerian mammals with a foreword on vegetation: 131. Lagos, Nigerian government.

- ROSTOVTSSEV, Mikhail Ivanovich, 1903. Tesserarum urbis Romae et suburbi plumbeorum sylloge: xi, 440. St. Petersburg. Acad. Imper. des sciences.
- ROTH, Harald H., 1965. Operatie 'Noach'. Zoo, Antwerpen, 30(4): 158-166, 11 figs.
- , 1967. White and black rhinoceros in Rhodesia. *Oryx*, 9(3): 217-231, pls. 12-16, 1 fig, 1 map. (A redrawn version of the map was later made available upon request, cf. *Oryx* 11(4): 266.)
- , 1968. Das Helminthenvorkommen in Säugetieren zoologischer Gärten und seine Abhängigkeit von ökologischen Faktoren (I). *Zoologische Beiträge*, (N.F.) 14: 61-123, figs. 1-5.
- , 1969. Ueber das Schwimmen afrikanischer Landsäugetiere im Kariba-Stauseegebiet und ihr Verhalten gegenüber dem Flutwasser. *Zoologische Garten*, (N.F.) 37 (1/3): 12-29, figs. 1-16.
- & Graham CHILD, 1968. Distribution and population structure of black rhinoceros (*Diceros bicornis* L.) in the Lake Kariba basin. *Zeitschrift für Säugetierkunde*, 33: 214-226, figs. 1-4.
- ROUND, M.C., 1962. A new species of the genus *Strongylus* Müller, 1780 from the black rhinoceros, *Diceros bicornis* L. and a note on the other species occurring in Kenya. *Journal of helminthology*, 36: 189-200, figs. 1-20.
- , 1964. A new species of *Stephanofilaria* in skin lesions from the black rhinoceros (*Diceros bicornis* L.) in Kenya. *Journal of helminthology*, 38(1/2): 87-96, figs. 1-9.
- ROUSSEL, Lucien, 1913. La chasse en Indochine: i, iv, 318. Paris, Plon.
- ROUSSELET, Louis, 1877. L'Inde des Rajahs: voyage dans l'Inde centrale et dans les présidences de Bombay et du Bengale: i, 806. Paris, Hachette & Cie. (Part on rhino also: *Le Tour du monde, nouveau journal des voyages*, 22: 244 (1870-71).)
- ROY, A.N., 1945. The great Indian rhinoceros. *Indian Forester*, 71: 125-126.
- RUDIN, W.F., 1935. Over den wildstand in het Ranaugebied. *Tropische Natuur*, 24(8): 125-130, figs. 1-4.
- RUDOLPHI, Karl Asmund, 1804. Bemerkungen aus dem Gebiet der Naturgeschichte, Medicin und Thierarzneykunde, auf einer Reise durch einen Theil von Deutschland, Holland und Frankreich, gesammelt, I: vii, 296. Berlin, Realschulbuchhandlung.
- RÜEDI, Dieter & R. MÜLLER, 1975. Klinische und pathologisch-anatomische Aspekte einer interstitiellen Pneumonie beim Panzernashorn (*Rhinoceros unicornis*) im Zoo Basel. *Verhandlungsbericht des XVII. Internationalen Symposiums über die Erkrankungen der Zootiere*: 75-79, fig. 1.
- & Kathleen TOBLER, 1980. International studbook for the great Indian rhinoceros (*Rhinoceros unicornis*), second ed.: 13. Basel, Zoological garden.
- RUFFI, Antoine de, 1696. Histoire de la ville de Marseille, etc., 2nd ed., I: xvi, 496. Marseille, Henri Martel. (1st ed. 1646)
- RUHE, Hermann Jr., 1970. Beobachtungen, Erfahrungen und Erkenntnisse bei der Einrichtung von Freigehegen für afrikanische Wildtiere ausserhalb des afrikanischen Kontinents. *Zoologische Garten*, (N.F.) 38(5): 246-262, figs. 1-8.
- RUMPHIUS, Georgius Everhardus, 1705. D'Amboinsche rariteitenkamer, [etc.]: xxx, 340, index. Amsterdam, François Helma.
- RUPERTUS, R.D.D., (12th century). In S. Job commentarius. In: J.P. Migne, *Patrologiae cursus completus Latinae*, vol. 168.
- RUSSELL, Nick J., 1967a. Kenya takes action on its rhino waifs. *Africana*, 3(1): 33, 36-39.
- , 1967b. Rhinos, whirlybirds and M99. *Animal Kingdom*, 70(4): 99-105, 12 figs.
- RUYSCH, Henricus, 1718. Theatrum universale omnium animalium, piscium, avium, quadrupedum, esanguium, aquaticorum, insectorum, et angium, CCLX. tabulis ornatum, ex scriptoribus tam antiquis tam recentioribus, II, 1: Historiam quadrupedum: x, 164. Amstelædami, R. & G. Wetstenios.
- RYDER, Michael L., 1962a. Structure of rhinoceros horn. *Nature*, 193: 1199-1201, figs. 1-2.
- , 1962b. Rhinoceros horn. *Tierox news*, 40(11): 274-277, figs. 1-2.
- RYHNER, Mathys, 1952. Zur Kulturgeschichte des Rhinoceros. *DU*, 1952 (12): 66-69, 94, 5 figs.
- RYHNER, Peter R., 1952. Das Panzernashorn Indiens. *DU*, 1952(12): 70-71, 1 fig.

- SAAR, Johann Jacob, 1672. Ost-Indianische funfzehnjährige Kriegsdienste, und wahrhaftige Beschreibung, [etc.] unpag., 168, index. Nürnberg, Johann Daniel Tauber.
- SABAN, Roger, 1970. La musculature peaucière de la tête et du cou chez *Rhinoceros unicornis* Linné 1758. *Gegenbaurs morphologisches Jahrbuch*, 115(4): 418-443, pls. 1-3, figs. 1-14.
- SACC, F., 1861. Le jardin zoologique de Marseille. *Revue et Magazine de zoologie, pure et appliquée*, (2) 13(1): 34-46. (Translated: Der zoologische Garten in Marseille. *Zoologische Garten*, (A.F.) 2(9): 160-163, 1861.)
- SACHS, R. & C. SACHS, 1968. A survey of parasitic infestation of wild herbivores in the Serengeti region in Northern Tanzania and the Lake Rukwa region in southern Tanzania. *Bulletin of epizootic diseases of Africa*, 16: 455-472, fig. 1.
- SAGREIYA, K.P., 1969. Wild life of Madhya Pradesh through ages. *Indian Forester*, 95: 715-718.
- SAILER, O., 1941. Unsere Tiergärten im Winter 1939/40: Dresden. *Zoologische Garten*, (N.F.) 13(1/2): 15-18, figs. 1-3.
- SAINÉAN, Lazare, 1915. L'histoire naturelle dans l'oeuvre de Rabelais. *Revue du seizième siècle*, (N.S.) 3: 187-277.
- , 1921. L'histoire naturelle et les branches connexes dans l'oeuvre de Rabelais: 449. Paris, Champion.
- , 1922. La langue de Rabelais, 1: Civilisation de la Renaissance: xiii, 508. Paris, E.de Boccard.
- , 1927. Problèmes littéraires du seizième siècle: le cinquième livre/ le moyen de Parvenir/ les joyeux devis: viii, 302. Paris, E.de Boccard.
- SALOMON, Richard, 1943. A trace of Dürer in Rabelais. *Modern language notes*, 58(7): 498-501.
- SANDE, Eduardo de, 1590. De missione legatorum Iaponensium ad Romanam curiam, rebusq; in Europa, ac toto itinere animadversis dialogus: viii, 412, xxiv. Macaensi portu Sinici, Societas Iesu.
- SANDEMAN, N., 1959. Kenya control measures. *Wild Life*, Nairobi, 1(1): 16-17, 56, 2 figs.
- SANDER, Heinrich, 1779. Nachricht vom Rhinoceros in Versailles. *Naturforscher*, 13: 1-10. (Also in his: *Kleine Schriften nach dessen Tode herausgegeben von Georg Friederich Götz*, 1: 116-125. Dessau & Leipzig, 1784.)
- SANDILANDS, Bruce Walter, 1974. Rhino sightings in Sabah, *Borneo research bulletin*, 6(2): 56.
- SANFELICIUS, Antonius, [1571]. [Poem] De Rhinocerote. P. 364 in: Paulus Jovius, *Elogia virorum bellica virtute illustrium*. Basileae.
- SANKALIA, Hasmukhlal Dhirajlal & I. KARVE, 1949. Early primitive microlithic culture and people of Gujarat. *American anthropologist*, 51(1): 28-34, pls. 1-4.
- SÁNYÁL, Ram Bramha, 1892. A hand-book of the management of animals in captivity in lower Bengal: 1, ii, xlix, 351. Calcutta, Bengal Secretariat press.
- SASSETTI, Filippo, 1855. Lettere edite e inedite di Filippo Sasseti raccolte e annotate da Ettore Marcucci: iii, xlvii, 575. Firenze, Felice le Monnier.
- SAUER, E.G. Franz, 1972. Fund eines Nashorn-Vorderhorns in der zentralen Namib. *Namib und Meer*, 3: 21-23.
- SAUVAIRE, P.-Marquis de Barthélemy, 1930. Mon vieil Annam: ses bêtes. Contes et récits de chasse: xiv, 254. Paris, Société d'éditions géographiques, maritimes et coloniales.
- SAVIDGE, John M., 1961. The introduction of white rhinoceros into the Murchison Falls national park, Uganda. *Oryx*, 6(3): 184-189.
- , 1964. A new national park in Uganda. *Oryx*, 7(4): 151.
- , 1965. Catching and carting white rhinos in Uganda. *Oryx*, 8(2): 89-93.
- , Michael WOODFORD & Harvey CROZE, 1977. White rhino increase in Zaire. *Oryx*, 14(1): 4-5.
- , & —, 1978. Witte neushoorn in herstel. *Panda*, 14(1): iii, 1 fig.
- SAVORY, C.A.R., 1969. Crisis in Rhodesia. *Oryx*, 10(1): 25-30, pls. 5-7, fig. 1.
- SAYERS, Gerald Fleming, 1930. The handbook of Tanganyika: x, 636. London, MacMillan & Co.
- SCALIGER, Julius Caesar, 1576. Exotericarum exercitationum liber de subtilitate, ad Hieronymum Cardanum: iv, 1130, index. Francofurti.

- SCHACK, Wilhelm, 1947. Ein weisses Nashorn gelangt in den Tiergarten von Pretoria (Südafrika). *Natur und Volk*, 77(4/6): 71-76, figs. 1-3.
- , 1950. Ein zweites weisses Nashorn im Tiergarten von Pretoria (Südafrika). *Natur und Volk*, 80(1/2): 49-51, fig. 1.
- , 1958. Ich jagte das weisse Nashorn: mit Kamera und Blitzlicht im Zululand: 87. Frankfurt am Main, Umschau.
- SCHALLER, George B. & Noel M. SIMON, 1970. The endangered large mammals of Asia. *IUCN Publications*, (N.S.) 18: 11-23.
- SCHALLER, Karl & Jürgen PILASKI, 1979. Pocken bei Breitmaulnashörnern (*Ceratotherium simum*) im zoologischen Garten Münster. *Zoologische Garten*, (N.F.) 49(3): 169-184, figs. 1-13.
- SCHAURTE, Werner T., 1960. Vom südafrikanischen Breitmaul-Nashorn, *Ceratotherium simum simum*. *Natur und Volk*, 90(12): 389-397, figs. 1-9.
- , 1962. Das Breitmaulnashorn im Zululand in höchster Gefahr. *Tier*, 2(6): 32-35, 4 figs.
- , 1966. Beiträge zur Kenntnis des Gebisses und Zahnbaues der afrikanischen Nashörner. *Säugetierkundliche Mitteilungen*, 14: 327-341, figs. 1-13.
- , 1968. Threatened species of rhinoceros in tropical S.E. Asia. *IUCN Publications*, (N.S.) 10: 284-293, figs. 8-9.
- , 1969. Ueber die Geburt eines Breitmaulnashornes, *Ceratotherium simum simum* (Burchell, 1817), im Wildschutzgebiet Krugersdorp in Transvaal. *Säugetierkundliche Mitteilungen*, 17: 158-160, fig. 1.
- SCHIEFER, Charles Henri Auguste, 1895. Notice sur les relations des peuples Musulmans avec les Chinois, depuis l'extension de l'islamisme jusqu'à la fin du XVe siècle. Pp. 1-43 in: Centenaire de l'Ecole des langues orientales vivantes 1795-1895. Paris, L'imprimerie Nationale.
- SCHILLENDORFF, Fritz Bronsart von, 1916. Afrikanische Tierwelt IV: Novellen und Erzählungen: 139. Leipzig, E. Haberland.
- SCHENKEL, Rudolf, 1966. Zum Problem der Territorialität und des Markierens bei Säugern - am Beispiel des schwarzen Nashorns und des Löwen. *Zeitschrift für Tierpsychologie*, 23(5): 593-626, figs. 1-11.
- , 1971. Mission Nashorn: auf der Fährte des seltensten Säugetiers der Welt: 219. Bern und Stuttgart, Hallwag.
- , 1979. Onderzoek naar de neushoorn op Sumatra. *Vakblad voor biologen*, Hilversum, 59(4): 46.
- , 1980. Asian rhinoceros. *World Wildlife Fund Yearbook*, 1979-80: 82-85.
- & Ernst M. LANG, 1969. Das Verhalten der Nashörner. *Handbuch der Zoologie*, 8(46): 1-56, figs. 1-25.
- & Lotte SCHENKEL-HULLIGER, 1968a. Saving the Javan rhino: poachers and food supply the two main problems. *Oryx*, 9(5): 340-341, pls. 3-8.
- & —, 1968b. The first Javan rhino calf. *Oryx*, 9(6): 397.
- & —, 1969a. The Javan rhinoceros (*Rh. sondaicus* Desm.) in Ujung Kulon nature reserve: its ecology and behaviour. Field study 1967 and 1968. *Acta Tropica*, 26(2): 97-135, figs. 1-9.
- & —, 1969b. Ecology and behaviour of the black rhinoceros (*Diceros bicornis* L.): a field study: 101. Hamburg & Berlin, Paul Parey (Mammalia Depicta).
- & —, 1969c. The last remnants of the Javan rhinoceros in Ujung Kulon nature reserve, Java. *Biological conservation*, 2: 68-70, figs. 1-2.
- & —, 1969d. Nashörner vom Aussterben bedroht. *Umschau in Wissenschaft und Technik*, 69(23): 760-763, figs. 1-4.
- & —, 1969e. Report on a survey trip to Riau area and the Mt. Leuser reserve to check the situation of the Sumatran rhino and the orang utan (21 August to 13 September 1969). Typewritten report to WWF, Morges: 1-7.
- & —, 1970a. More young Javan rhinos. *Oryx*, 10(4): 211.
- & —, 1970b. Einige Java-Nashörner mehr. *Tier*, 10(2): 38.
- & —, 1972a. The present status of rhinos in Indonesia. *Biological conservation*, 4(4): 308-309.
- & —, 1972b. Javan rhino increase. *International zoo news*, 19(3): 97.

- & —, 1974. Ujung Kulon nature reserve, Java-scientific programme and management. *World Wildlife Yearbook*, 1973-74: 176-178.
- & —, 1975. Ujung Kulon nature reserve, Java. *World Wildlife Yearbook*, 1974-75: 173-174.
- & —, 1977. Ujung Kulon nature reserve protection and management programme. *World Wildlife Yearbook*, 1976-77: 129-132.
- & —, 1978. Ujung Kulon, Java-management and protection. *World Wildlife Yearbook*, 1977-78: 94-95.
- & —, 1980. The Asian rhinos are also under threat. *IUCN Bulletin*, (N.S.) 11(1/2): 14 and *Tiger Paper*, 8(1): 20, 1 fig. (1981).
- , — & Widoko Sukohadi RAMONO, 1978. Area management for the Javan rhinoceros (*Rhinoceros sondaicus* Desm.), a pilot study. *Malayan nature journal*, 31(4): 253-275, 1 pl., figs. 1-4.
- SCHERREN, Henry, 1903. Exhibition of, and remarks upon, a horn of *Rhinoceros simus*. *Proceedings of the Zoological society of London*, 1903(2): 316.
- , 1905. The Zoological society of London, a sketch of its foundation and development and the story of its farm, museum, gardens, menagerie and library: xii, 252. London etc., Cassell & Co.
- SCHUECHZER, Johannus Jacobus, 1721. *Jobi physica sacra oder Hiobs Natur-Wissenschaft, verglichen mit der heutigen*: xxxii, 467, xvi. Zürich, Bodmer.
- , 1731. *Physica sacra, iconibus aeneis illustrata procurante & sumtus suppeditante Johanne Andrea Pfeffel, I. Augustae Vindelicorum & Ulmae*.
- SCHUYGROND, Arie, 1971. Goenoeng-Leuserreservaat, een der mooiste landschappen. *Panda-Nieuws*, 7(5): 38-46, 7 figs, 1 map.
- , 1972. De Goenoeng Leuser-reservaten (Atjeh en Noord-Sumatra). *Zoo*, Antwerpen, 37(4): 195-203, 12 figs, 1 map.
- , 1973. Is de Javaanse neushoorn behoord voor uitsterven? *Panda-Nieuws*, 9(7/8): 65-67, 1 fig.
- SCHILLING, Ton, 1952. *Tijgermensen van Anai: Jacht op grof wild*: 216. Amsterdam, H. Meulenhoff.
- SCHILLINGS, Carl Georg, 1907. *In wildest Africa*, II: viii, 319-716. London, Hutchinson & Co.
- , 1925. *Met flitslicht en buks: nieuwe waarnemingen en avonturen in de wildernis te midden van de dierenwereld van Aequatoriaal-Oost-Afrika*. Vertaling en aantekeningen van A.F.J. Portielje, 2nd ed.: vii, 360. Arnhem, Van Loghum Slaterus. (Original: Mit Blitzlicht und Büchse.)
- SCHINZ, Heinrich Rudolph, 1824. *Naturgeschichte und Abbildungen der Säugethiere: nach dem neuesten Systemen zum gemeinnützigen Gebrauche entworfen, und mit Berücksichtigung für den Unterricht der Jugend bearbeitet*, II: 187-417, viii. Zürich, Brodtmann.
- , 1845. *Systematisches Verzeichniss aller bis jetzt bekannten Säugethiere oder Synopsis mammalium nach dem Cuvier'schen System*: iv, 574. Solothurn, Jent und Gassmann.
- SCHLAGINTWEIT, Emil, 1880. *Indien in Wort und Bild: eine Schilderung des Indischen Kaiserreiches*, I: i, vi, 255. Leipzig, Heinrich Schmidt & Carl Günther.
- SCHLAWE, Lothar, 1961. Ein weibliches Sumatranashorn in Kopenhagen (*Didermoceros sumatraensis*). *Freunde des Kölner Zoo*, 4(4): 94-95, figs. 1-7.
- , 1969. Die für die Zeit vom 1. August 1844 bis 31. Mai 1888 nachweisbaren Thiere im zoologischen Garten zu Berlin: ii, 65. Berlin, L. Schlawe.
- , 1972. Aus der Geschichte des Hamburger Tiergartens. *Zoologische Garten*, (N.F.) 41 (3/4): 168-186, figs. 1-15.
- SCHLEGEL, Hermann, 1857. *Handleiding tot de beoefening der dierkunde*, I: xii, lii, 530, ii. Breda, Koninklijke Akademie voor de zee- en landmagt.
- , 1872. *De dierentuin van het Koninklijk Zoologisch genootschap Natura Artis Magistra te Amsterdam, met historische herinneringen van P.H. Witkamp*. Amsterdam, Gebr. van Es.
- SCHMIDT, Christian R., 1967. The Africa house at Zurich zoo. *International Zoo Yearbook*, 7: 62-66, pls. 45-46, fig. 1.
- , 1970. Ein Besuch im zoologischen Garten von Ceylon, Dehiwala bei Colombo. *Freunde*

- des Kölner Zoo, 12(4): 115-124, 26 figs.
- SCHMIDT, Robert E. & D.A. HARTFEL, 1976. Disseminated bacterial infection in an infant rhinoceros. *Journal of zoo animal medicine*, 7(2): 15-17.
- SCHMIDT-SCHAUMBURG, (?), 1953. Comparative studies of the black and the white rhinoceros. *African wildlife*, 7(2): 124-127, 4 figs.
- SCHMÖKEL, Hartmut, 1957. Tiere der Wildbahn auf altorientalischen Siegeln. *Zoologische Garten*, (N.F.) 23(1/3): 136-145, figs. 1-11.
- SCHNEEBERGER, Werner F., 1945. The Kerayan-Kelabit highland of Central Northeast Borneo. *Geographical review*, New York, 35: 544-562, figs. 1-24.
- SCHNEIDER, Gustav, 1906. Ergebnisse zoologischer Forschungsreisen in Sumatra, erster Teil: Säugetiere (Mammalia). *Zoologische Jahrbücher, Abt. Systematik, Geographie und Biologie*, 23: 1-172, pls. 1-3, 2 maps.
- SCHNEIDER, Karl Max, 1930. Bemerkungen über die von Christoph Schulz 1929 eingeführten ostafrikanischen Tiere. *Zoologische Garten*, (N.F.) 3(1/3): 19-28, figs. 1-16.
- SCHNEIDER, Reinhold, 1959. Das Erdbeben: 139. München, Kösel.
- SCHOELLER, Max, 1901-1904. Mitteilungen über meine Reise nach Äquatorial-Ost-Afrika und Uganda 1896-1897, I: viii, 262, i, 27 (1901); II: iii, 330, 34 (1904). Berlin, Dietrich Reimer.
- SCHOMBER, Hans W., 1959. Weisse Nashörner: aussterbende Giganten. *Orion*, 14: 548-553, 2 figs.
- , 1962. Wildlife Protection and hunting in the Sudan, I. *African wildlife*, 16(2): 147-153, 4 figs.
- , 1963. Wild life in the Sudan, part III: White and black rhinoceros and giant eland. *African wildlife*, 17(1): 29-35, 3 figs, 1 map.
- , 1966. Die Verbreitung und der Bestand des zentralafrikanischen Breitmaulnashorns, *Ceratotherium simum cottoni* (Lydekker, 1908). *Säugetierkundliche Mitteilungen*, 14: 214-227, figs. 1-4.
- SCHOMBURGK, Hans, 1910. Wild und Wilde im Herzen Afrikas: zwölf Jahre Jagd- und Forschungsreisen: xv, 373. Berlin, Egon Fleischel & Co.
- SOIOTT, Andreas, 1603. Hispaniae illustratae seu rerum urbiumq. Hispaniae, Lusitaniae, Aethiopiae et Indiae scriptores varii. Partim editi nunc primum, partim aucti atque emendati, quorum seriem sequem post praefationem pagina exhibet, I: xi, 1189, xxxv. Francofurti, Claudius Marnius et haeredes Iohannis Aubrij.
- SOIOTT, Gaspar, 1662. Physica curiosa, sive mirabilia naturae et artis libri XII, [etc.], II: iv, 771-1583, xxiv. Heriboli, Iohannis Andreas Endterus & Wolffgangus Jun.
- SCHOUTEDEN, Henri, 1911. Le rhinocéros blanc. *Revue zoologique africaine*, 1: 118-124, pl. 6, fig. 1.
- , 1913. Notes sur la faune des mammifères du Katanga. *Revue zoologique africaine*, 2(2): 280-288, pls. 6-7.
- , 1927. Les rhinocéros congolais. *Revue zoologique africaine*, 15(2): (19)-(30), figs. 1-3.
- , 1943. Catalogue des mammifères du Congo Belge et du Ruanda-Urundi. *Revue de zoologie et de botanique africaines*, 37(1/2): 102-125.
- , 1945. De zoogdieren van Belgisch-Congo en van Ruanda-Urundi, II-Carnivora (2), Ungulata (1). *Annales du Musée du Congo Belge, Tervuren, C (Zoologie)*, (2) 3(2): 169-332, figs. 171-372.
- SCHOUTENS, Wouter, 1676. Oost-Indische voyagie, etc.: x, 328, 253, index. Amsterdam, Jacob Meurs & Johannes van Someren.
- SCHREBER, Johann Christian Daniel von, 1835. Die Säugethiere in Abbildungen nach der Natur mit Beschreibungen, fortgesetzt durch Johann Andreas Wagner, VI: xvi, 520. Erlangen, Palm.
- SCHREYER, Johann, 1931. Reise nach dem Kaplande und Beschreibung der Hottentotten 1669-1677. Neu herausgegeben nach der zu Leipzig im Verlag von Johann Christian Woblfart (1681) gedruckten zweiten Ausgabe des im Jahre 1679 zum ersten Mal erschienenen Text: i, 68. Haag, Martinus Nijhoff.
- SCHROECKIUS, Lucas, 1686. De gemino rhinocerotis cornu. *Miscellanea curiosa sive ephemeridum medico-physicarum germanicarum Academiae naturae curiosorum*,

- Decuriae II, anno V: 463-469.
- SCHUBOTZ, Hermann, 1912. Zoologische Beobachtungen während der II. wissenschaftlichen Innerafrika-Expedition S.H. des Herzogs Adolf Friedrich zu Mecklenburg 1910/1911. *Bericht über die Senckenbergischen naturforschenden Gesellschaft Frankfurt am Main*, 43(4): 324-358, 13 figs, 1 map.
- SCHÜTTE, G.W., 1970. Unusual meal. *Lammergeyer*, 11: 81-82.
- SCHULTENS, Albertus, 1742. Liber Jobi in versiculos metricè divisus, cum versione Latina Alberti Schultens . . . : viii, xvi, viii, 322. Londini, Gul. Bowyn.
- SCHULTENS, Henrik Albert & Herman Muntinghe, 1794. Het boek Job, uit het Hebreuwsch vertaald, met aanmerkingen: xxxii, 271. Amsterdam, Johannes Allart.
- SCHULTZE, Arnold, 1913. The sultanate of Bornu (translated from the German with additions and appendices, by P. Askell Benton): 401. London etc., Oxford university press.
- SCHULZ, Chr., 1921. Auf Grosstierfang für Hagenbeck: selberlebtes aus afrikanischer Wildnis, 2nd ed.: 184. Dresden, Deutsche Buchwerkstätten.
- SCHULZ, K.C.A., 1961. Ulcerating wound behind the shoulder of the black rhinoceros (*Diceros bicornis*) in the Hluhluwe and Mkuzi game reserves of Zululand. *African wildlife*, 15(1): 55-59, 3 figs.
- & E.B. KLUGE, 1960. Dermatitis in the black rhinoceros (*Diceros bicornis*) due to filariasis. *Journal of the South African veterinary medical association*, 31(2): 265-269, figs. 1-4.
- SCHULZ, Walter C., 1963. Veld to port. *Zoonoos*, San Diego, 36(1): 10, 4 figs.
- SCHULZE, Paul, 1919. Bestimmungstabelle für das Zeckengenuss Hyalomma Koch. *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin*, 1919: 189-196, figs. 1-6.
- SCHWANER, C.A.L.M., 1853. Borneo: beschrijving van het stroomegebied van den Barito en reizen langs eenige voornam rivieren van het zuid-oostelijk gedeelte van dat eiland, op last van het Gouvernement van Nederl. Indië gedaan in de jaren 1843-1847, t. iv, 234. Amsterdam, P.N. van Kampen.
- SCHWARTZ, George Bernhardt, 1751. Reise in Ost-Indien, worinnen mancherley Merkwürdigkeiten, besonders aber die Anno 1740, in seiner Anwesenheit zu Batavia fürgefallene Rebellion der Chinesen, und deroelben darauf erfolgte grose Massacre umständlich und aufrichtig beschrieben worden: vi, 135. Heilbronn, Franz Joseph Eckbrecht.
- SCHWARZ, Ernst, 1920. Huftiere aus West-und Zentralafrika. Ergebnisse der zweiten deutschen Zentral-Afrika-Expedition 1910-1911, unter Führung Adolf Friedrichs, Herzogs zu Mecklenburg, I: Zoologie, Lieferung 15: 831-1044, pls. 33-48.
- SLATER, Philip Lutley, 1862. Exhibition of a tracing of the outline of a skull in the adult male *Rhinoceros sumatranus*, on behalf of Mr. Blyth, corr. memb. *Proceedings of the Zoological society of London*, 1862: 1.
- , 1864a. On the mammals collected and observed by capt. J.H. Speke during the East-African expedition. *Proceedings of the Zoological society of London*, 1864: 98-106, pls. 12-13.
- , 1864b. Announcement of Mr. James Thompson's return from Calcutta with a valuable collection of animals. *Proceedings of the Zoological society of London*, 1864: 373-374.
- , 1868. On additions to the Society's menagerie, and report on Lecomte's expedition to the Falkland islands. *Proceedings of the Zoological society of London*, 1868: 526-530.
- , 1870. African rhinoceroses. *Student and intellectual observer*, 4: 321-326, pl. 11, 2 figs.
- , 1871. Exhibition of, and remarks on, a horn of the male Indian rhinoceros (*Rhinoceros unicornis*). *Proceedings of the Zoological society of London*, 1871: 8-11, figs. 1-3.
- , 1872a. Notes on *Propithecus bicolor* and *Rhinoceros lasiotis*. *Annals and Magazine of natural history*, (4) 10: 298-299.
- , 1872b. [On *Rhinoceros lasiotis*.] *Athenaeum*, August 24, 1872, no. 2339: 243.
- , 1872c. Rhinoceroses. *Nature*, 5: 426-428, 2 figs.
- , 1872d. The new rhinoceros. *Nature*, 6: 518-519.
- , 1872e. Announcement of the addition to the Society's collection of a female Sumatran rhinoceros. *Proceedings of the Zoological society of London*, 1872: 185.
- , 1872f. Report on the additions to the Society's menagerie in February, 1872. *Proceedings*

- of the Zoological society of London, 1872: 493-496, pls. 23-26.
- , 1872g. Report on the additions to the Society's menagerie during the months of June, July, August and September, 1872. *Proceedings of the Zoological society of London*, 1872: 789-795, pl. 67, figs. 1-5.
 - , 1872h. A new Asiatic rhinoceros. *Popular science review*, 11: 432.
 - , 1873a. On a new rhinoceros, with remarks on the recent species of this genus and their distribution. *Report of the 42nd meeting of the British Association for the advancement of science, held at Brighton in August 1872*, part 3: 140. London, John Murray.
 - , 1873b. Remarks on animals seen in some of the continental zoological gardens. *Proceedings of the Zoological society of London*, 1873: 473-474.
 - , 1874. Announcement of the arrival in the Society's menagerie of a Javan rhinoceros. *Proceedings of the Zoological society of London*, 1874: 182-183, pl. 28.
 - , 1875a. Exhibition of a drawing of a supposed new rhinoceros from the terai of Bhootan. *Proceedings of the Zoological society of London*, 1875: 82.
 - , 1875b. Exhibition of, and remarks on, the upper horn of a two-horned rhinoceros from the valley of the Brahmapootra. *Proceedings of the Zoological society of London*, 1875: 566.
 - , 1876a. On the rhinoceroses now or lately living in the Society's menagerie. *Transactions of the Zoological society of London*, 9 (xi): 645-660, pls. 95-99, figs. 1-9.
 - , 1876b. Exhibition of and remarks upon a skin of a young rhinoceros from the Sunderbunds. *Proceedings of the Zoological society of London*, 1876: 751.
 - , 1877. Remarks upon a two-horned rhinoceros killed in 1876, near Comillah, in Tipperah, and on a living specimen of *Rhinoceros sondaicus* from the Sunderbans. *Proceedings of the Zoological society of London*, 1877: 269-270.
 - , 1878. Report on the additions to the Society's menagerie in June, July, August, September and October, 1878. *Proceedings of the Zoological society of London*, 1878: 788-791.
 - , 1879. Report on the additions to the Society's menagerie in March, 1879. *Proceedings of the Zoological society of London*, 1879: 308.
 - , 1880. Remarks on animals observed in the zoological gardens of Berlin, Hamburg, Amsterdam, The Hague, and Antwerp. *Proceedings of the Zoological society of London*, 1880: 420.
 - , 1884. Remarks upon a copy of the lately issued "Guide to the Calcutta zoological gardens" and on *Rhinoceros lasiotis*. *Proceedings of the Zoological society of London*, 1884: 55-56.
 - , 1885. Report on the additions to the Society's menagerie in April, 1885. *Proceedings of the Zoological society of London*, 1885: 421.
 - , 1886a. Note on the external characters of *Rhinoceros simus*. *Proceedings of the Zoological society of London*, 1886: 143-144, pl. 16.
 - , 1886b. Report on the additions to the Society's menagerie in April 1886. *Proceedings of the Zoological society of London*, 1886: 266.
 - , 1887. Report on the additions to the Society's menagerie in December, 1886. *Proceedings of the Zoological society of London*, 1887: 1-2.
 - , 1890. The white rhinoceros. *Nature*, 42: 520-521, figs. 1-2.
 - , 1891. Remarks on interesting animals observed during a visit to the zoological gardens of Paris, Ghent, Antwerp, Rotterdam, Amsterdam and The Hague. *Proceedings of the Zoological society of London*, 1891: 326-327.
 - , 1893. On some horns belonging, apparently, to a new form of African rhinoceros. *Proceedings of the Zoological society of London*, 1893: 514-517, figs. 1-2.
 - , 1896. On continental menageries. *Proceedings of the Zoological society of London*, 1896: 783-785.
 - , 1900. Exhibition of, and remarks upon, a skull and horns of the square-mouthed rhinoceros and mounted heads of two antelopes obtained by Major A. St. H. Gibbons on the Upper Nile. *Proceedings of the Zoological society of London*, 1900: 949-950.
 - , 1903. Exhibition of, and remarks upon, the horn of a rhinoceros from the White Nile. *Proceedings of the Zoological society of London*, 1903(2): 194-195, fig. 21.
 - , 1904. On the best mode of preserving the existence of the larger mammals of Africa for future ages. *Journal of the Society for the preservation of the wild fauna of the Empire*, 1: 46-50.

- SCLATER, William Lutley, 1891. Catalogue of mammalia in the Indian museum, Calcutta, part II: xxix, 375. Calcutta, Trustees of the Indian museum.
- , 1900. The mammals of South Africa, I: Primates, carnivora and ungulata: xxxi, 324. London, R.H. Porter.
- SCOTT, Henry Harold, 1927. Neoplasm in an Indian rhinoceros (sarcoma of heart and lungs). *Proceedings of the Zoological society of London*, 1927(3): 503-510, pls. 1-2.
- SCOTT, Peter, 1975. A study of Sumatran rhinoceros. *Tiger Paper*, 2(2): 10, 3 figs.
- SCOTT, Ralph S., 1971. Rhino roundup in Nepal. *Karatasi Yenye Habari*, Kingsport, 19(2): 30-33, 3 figs.
- SCRIVERIUS, Petrus, 1629. M. Val. Martialis: 287. Amstelredami, Guiljel. Lamsonius.
- SCULLARD, H.H., 1974. The elephant in the Greek and Roman world: 288. London, Thames and Hudson.
- SEAL, U.S., R. BARTON, L. MATHER & C.W. GRAY, 1976. Baseline laboratory data for the white rhinoceros (*Ceratotherium simum simum*). *Journal of zoo animal medicine*, 7(1): 11-16.
- SEATON, Bill, 1971. 20 White rhinos for San Diego. *International zoo news*, 18(2): 51.
- SEIDENSTICKER, John, 1976. Ungulate populations in Chitawan valley, Nepal. *Biological conservation*, 10: 183-210, figs. 1-9.
- SEITZ, Adalbert, 1896. Mitteilungen aus dem zoologischen Garten in Frankfurt a.M. *Zoologische Garten*, (A.F.) 37(5): 143-149.
- SEKI, Kin-ichi, 1966. Notes on an example of copulation and period of pregnancy of *Diceros bicornis* (in Japanese). *Journal of the Mammalogical society of Japan*, 2(6): 159-160, 1 fig.
- SELOUS, Frederick Courteney, 1876. Exhibition of, and remarks on, a series of horns of African rhinoceroses. *Proceedings of the Zoological society of London*, 1876: 179.
- , 1881. On the South-African rhinoceroses. *Proceedings of the Zoological society of London*, 1881: 725-734, pl. 62.
- , 1892. African rhinoceroses. *Field*, Nov. 26, 1892: 803. (Reprinted in: H.A. Bryden, 1893, *Gun & camera in South Africa*, pp. 491-493.)
- , 1893. Travel and adventure in South-East Africa: being the narrative of the last eleven years spent by the author on the Zambesi and its tributaries; with an account of the colonisation of Mashonaland and the progress of the gold industry in that country: xviii, 503. London, Rowland Ward.
- , 1907. A hunter's wanderings in Africa, being a narrative of nine years spent amongst the game of the far interior of South Africa, containing accounts of explorations beyond the Zambesi, on the river Chobe, and in the Matabele and Mashona countries, with full notes upon the natural history and present distribution of all the large mammalia, 5th ed.: xxi, 504. London, MacMillan & Co. (1st ed. 1881)
- , 1908. African nature notes and reminiscences: xxx, 356. London, MacMillan & Co.
- , [n.d.]. The rhinoceros. Pp. 182-188, 7 figs. in: *The living animals of the world, a popular natural history*, I: Mammals: iv, viii, 384. London, Hutchinson & Co.
- SELOUS, Percy, 1897. Travel and big game: v, 195. London, Bellairs & Co.
- SESHADRI, Balakrishna, 1969. The twilight of India's wild life: 212. London, John Baker.
- SETZER, Henry W., 1956. Mammals of the Anglo-Egyptian Sudan. *Proceedings of the United States national museum*, 106: 447-587, figs. 1-10.
- SEWTER, A.C., 1949. Small Italian bronzes at the Barber institute. *Connoisseur*, 124(9): 24-29, figs. 1-11.
- SHAW, George, 1800. General zoology or systematic natural history, I, Part I: Mammalia: i, xv, 248. London, G. Kearsley.
- SHAW, Thomas, 1746. A supplement to a book entitled Travels, or observations, & c. wherein some objections, lately made against it, are carefully considered and answered: with several additional remarks and dissertations: ii, xvi, 112. Oxford, the Theatre.
- SHEBBEARE, Edward Oswald, 1935. Protecting the great Indian rhinoceros: a last sanctuary in Bengal. *Field*, 165: 1229-1231.
- , 1948. The Bengal rhinoceros sanctuary. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 56: 33-35.
- , 1953. Status of the three Asiatic rhinoceros. *Oryx*, 2(3): 141-149, 1 fig.

- , 1955. Weapons of the great Indian rhinoceros. *Oryx*, 3(3): 125-126.
- & A.N. ROY, 1948. The great one-horned rhinoceros (*Rhinoceros unicornis* L.). *Journal of the Bengal natural history society*, 22(3): 88-91, 3 pls.
- SHEKAREA, A., 1832. The Saugor island rhinoceros. *Oriental sporting magazine*, 2(16): 313-314.
- SHELDRIK, Daphne, 1967. Feeding young rhinos. *Black Lechwe*, 6(3): 8.
- SHELFORD, Robert Walter Campbell, 1916. A naturalist in Borneo, edited with a biographical introduction by Edward B. Poulton: xxviii, 331. London, T. Fischer Unwin.
- SHELTON, D.J., 1961. Wild life in the Zambezi valley. *African wildlife*, 15(1): 75-78, 1 fig, 1 map.
- SHEPARD, Odell, 1967. The lore of the unicorn, 2nd impression: 312. London, George Allen & Unwin. (1st impression 1930)
- SHEPSTONE, Harold J., [1931]. Wild beasts to-day: being an account of the world's leading zoological gardens, the catching, transportation and doctoring of wild animals, the rearing of them on farms, and the work of conserving the rarer species in parks and reservations: x, 254. London, Sampson Low, Marston & Co.
- SHERBORN, Carolus Davies, 1927. Index animalium sive index nominum quae ab A.D. MDCCLVIII generibus et speciebus animalium imposita sunt, sectio II (1801-1850). London, British Museum.
- SHERFIELD, Paul, 1969. White rhino calf. *Black Lechwe*, 7(5): 16, 1 fig.
- SHIRLEY, R.M., 1963. Meeting with a rhino. *African wildlife*, 17(3): 255-256, 1 fig.
- SHORTHORSE, William John Townsend, 1931. Wild life and shooting in Nigeria. *Nigerian Field*, 1(2): 4-13, 5 figs.
- , 1932. The fauna of Nigeria (Notes on its distribution, destruction and conservation). *Nigerian Field*, 1(3): 3-9.
- SHORTIDGE, Guy Chester, 1915. The Asiatic two-horned rhinoceros (*Rhinoceros sumatrensis*, Cav.). *Journal of the Bombay natural history society*, 23(4): 772-774.
- , 1934. The mammals of South West Africa: a biological account of the forms in that region, I: xxv, 437. London, William Heinemann.
- , 1942. Field notes on the first and second expeditions of the Cape museums' mammal survey of the Cape province; and descriptions of some new genera and subspecies. *Annals of the South African museum*, 36(1): 27-100, pls. 6-7.
- SHUFELDT, Robert Wilson, 1893. Scientific taxidermy for museums (based on a study of the United States government collections). *Annual report of the Smithsonian institution for the year ending June 30, 1892*: 369-436, pls. 15-96.
- SHUTTLEWORTH, Charles, 1967. Malayan safari: 156. London, Phoenix house.
- SICHEM, Christoffel van, 1739. *Bijbels lusthof*. Amsterdam.
- SIDNEY, Jasmine, 1965. The past and present distribution of some African ungulates. *Transactions of the Zoological society of London*, 30: 1-397, figs. 1-39, maps 1-94.
- SIEDLER, Maximilian, 1905. Altes und Neues aus dem Schönbrunner zoologischen Garten in Wien. *Zoologische Garten*, (A.F.) 46(9): 260-272.
- SIGEL, W.L., 1881. Die Tierpflege des zoologischen Gartens in Hamburg (Schluss der Säugthiere). *Zoologische Garten*, (A.F.) 22(4): 355-363.
- SILBERMAN, M.S. & R.B. FULTON, 1979. Medical problems of captive and wild rhinoceros—a review of the literature and personal experiences. *Journal of zoo animal medicine* 10(1): 6-16.
- SILVA, G.S. de, 1968. Wildlife conservation in the state of Sabah. *IUCN Publications*, (N.S.) 10: 144-150.
- SILVA, S. Newton da, 1952. Wild life and its protection in Angola. *Oryx*, 1(6): 343-346, 1 map.
- SILVERSTEIN, Shel, 1972. Rhinoceros billig zu verkaufen. Köln, Chihuahua press. (Original: Who wants a cheap rhinoceros? New York, 1972.)
- SIMON, Noel M., 1962. Between the sunlight and the thunder, the wild life of Kenya: 384. London, Collins.
- , 1966-1971. Red Data book, I: Mammalia. Morges, IUCN. (Data sheets for each taxon first published 1966 and subsequently revised when needed: *Ceratotherium simum cottoni* (1) 1966, (2) 1967, (3) 1970, (4) 1971; *Ceratotherium simum simum* (1) 1966; *Diceros*

- bicornis (1) 1966; *Didermoceros sumatrensis* (1) 1966, (2) 1967; *Rhinoceros unicornis* (1) 1966, (2) 1967; *Rhinoceros sondaicus* (1) 1966, (2) 1967, (3) 1971.)
- SIMPSON, George Gaylord, 1945. The principles of classification and a classification of mammals. *Bulletin of the American museum of natural history*, 85: v-xvi, 1-350.
- SIMSON, Frank B., 1886. Letters on sport in eastern Bengal: xix, 255. London, R.H. Porter.
- SINOR, Denis, 1960. Sur les noms altaïques de la licorne. *Wiener Zeitschrift für die Kunde des Morgenlandes*, 56: 168-176.
- SKAFTE, Hakon, 1961. A contribution to the preservation of the Sumatran rhinoceros. *Acta Tropica*, 18: 167-176, figs. 1-6.
- , 1962. A contribution to the preservation of the Sumatran rhinoceros. *Natural history bulletin of the Siam society*, 20(2): 85-94, 4 pls., figs. 1-4.
- , 1964. Rhino country: 191. London, Robert Hale. (Original: Badak. København, Grafisk Forlag, 1963.)
- SKEAD, C.J., 1958. Mammals of the Uitenhage and Cradock districts C.P. in recent times. *Koedoe*, 1958(1): 19-59.
- , 1971. Puzzle of rubbing-stones. *African wildlife*, 25(1): 36-37, 1 fig.
- SKEAT, Walter William, 1900. Malay magic, being an introduction to the folklore and popular religion of the Malay peninsula: xiv, 685. London, MacMillan & Co.
- & Charles Otto BLADEN, 1906. Pagan races of the Malay peninsula, I: xl, 724. London, MacMillan & Co.
- SLIGGERS, Bert, 1982. Het schetsboek van Cornelis van Noorde 1731-1795: het leven van een veelzijdig Haarlems kunstenaar. Haarlem, Schuyt & Co.
- SLOANE, Hans, 1749. A letter from Sir Hans Sloane Baronet, late Pr. R.S. to Martin Folkes Esquire Pr. R.S. containing accounts of the pretended serpent-stone called Pietra de Cobra de cabelos, and of the Pietra de Mombazza or the rhinoceros bezoar, together with the figure of a rhinoceros with a double horn. *Philosophical transactions of the Royal society*, 46: 118-119, 123-125, pl. 2.
- SMITH, Andrew, 1833. African zoology. *South African quarterly journal*, (2) 1(2): 113-256.
- , 1836. Report of the expedition for exploring Central Africa, from the Cape of Good Hope, June 23, 1834: 68. Cape Town, Government gazette office.
- , 1837. A catalogue of the South African museum: now exhibiting in The Egyptian Hall, Piccadilly, the property of a Society entitled 'The Cape of Good Hope Association for exploring central Africa': 39. London, Smith, Elder & Co.
- , 1838. Mammalia. Part I in: Illustrations of the zoology of South Africa; consisting chiefly of figures and descriptions of the objects of natural history collected during an expedition into the interior of South Africa, in the years 1834, 1835, and 1836; fitted out by 'The Cape of Good Hope Association for exploring central Africa'. London, Smith, Elder & Co.
- , 1939-1940. The diary of Dr. Andrew Smith, director of the 'Expedition for exploring central Africa', 1834-1836 - edited, with an introduction, footnotes, map and indexes, by Percival R. Kirby, I: i, 413 (1939); II: iii, 342 (1940). Cape Town, Van Riebeeck society (Publications, vols. 20, 21).
- SMITH, Anna Hester, 1968. In search of the unicorn. *Africana notes and news*, 18(3): 91-112, pls. 1-2, 1 fig.
- SMITH, Arthur Donaldson, 1897. Through unknown African countries: the first expedition from Somaliland to Lake Lamu: xvi, 471. London & New York, Edward Arnold.
- SMITH, H.C., 1935. Wild animals of Burma, part I: Larger mammals: iii, 54. Rangoon, British Burma press.
- SMITH, L.J., 1968. A note on the birth of a white rhinoceros, *Diceros simus*, at Pretoria zoo. *International Zoo Yearbook*, 8: 134, pl. 38.
- , 1970. White rhino born. *International zoo news*, 17(1): 3, 1 fig.
- SMITH, T. Murray, 1965. The nature of the beast: 192. London, Tandem books (T 53). (1st ed. 1963)
- SMITHERS, Reay H.N., 1968. A check list and atlas of the mammals of Botswana (Africa): iv, 169. Salisbury, Trustees of the National Museum of Rhodesia.
- , 1971. The mammals of Botswana: xi, 340. Salisbury, Trustees of the National museums of Rhodesia (Museum memoir no. 4).

- & José L.P. Lobão TELLO, 1976. Check list and atlas of the mammals of Moçambique: viii, 184. Salisbury, Trustees of the National museums and monuments of Rhodesia (Museum memoir no. 8).
- SMUTS, Johannus, 1832. *Dissertatio zoologica, enumerationem mammalium Capensium continens*: viii, vi, 108, i. Leidae, J.C. Cyfveer.
- SMYTHIES, Evelyn Arthur, 1942. Big game shooting in Nepal (with leaves from the Maharaja's sporting diary): xii, 174. Calcutta, Thacker, Spink & Co.
- SMYTHIES, Olive, 1953. *Tiger lady: adventures in the Indian jungle*: xi, 229. Melbourne, London, Toronto, William Heinemann.
- SNELLEMAN, Johannes François, 1887. *Bijdragen tot de kennis der fauna van Midden-Sumatra*, I: viii, 210. Leiden, E.J. Brill.
- SNOUCK HURGRONJE, Christiaan, 1903. *Het Gajoland en zijne bewoners*: xx, 452. Batavia, Landsdrukkerij.
- SNYDER, Robert L. & Susan C. MOORE, 1968. Longevity of captive mammals in Philadelphia zoo. *International Zoo Yearbook*, 8: 175-183.
- SODY, Henry Jacob Victor, 1929. Naamlijst van de zoogdieren van Java (met korte beschrijvingen van twee nieuwe subspecies). *Natuurkundig tijdschrift voor Nederlandsch-Indië*, 89: 160-166.
- , 1936. Enkele eerste aantekeningen over de sporen der Javaansche zoogdieren. *Tectona*, 29: 215-262, figs. 1-35.
- , 1937. Over de sporen der Javaansche zoogdieren. *Tectona*, 30: 724-730.
- , 1938. Lijst van de zoogdieren van Java (met Hollandsche en inlandsche namen). *Tectona*, 31: 741-764.
- , 1946. [Review of:] 'Prehistoric and fossil rhinoceroses of the Malay Archipelago and India', door D.A. Hooijer. Diss., Leiden, 1946, VI + 138 pp., 10 pl. *Natuurwetenschappelijk tijdschrift voor Nederlandsch-Indië*, 102(7): 151.
- , 1959. Das Javanische Nashorn, *Rhinoceros sondaicus*, historisch en biologisch. *Zeitschrift für Säugetierkunde*, 24(3/4): 109-240, pls. 5-8, figs. 1-7. (Translation of: De Javaanse neushoorn *Rhinoceros sondaicus* historisch en biologisch: vii, 156, figs. 1-25. Buitenzorg, 's Lands plantentuin, uitgave Archipel drukkerij en 't boekhuis, November 1941 - only a few copies survive, e.g. in the Museums of natural history of Amsterdam and Leiden.)
- SOEPADMO, E., 1970. Malaysia must act to save the Sumatran rhino. *Malayan nature journal*, 24(1): 1-2.
- SOLINUS, C. Iulius (3rd century). *Polyhistor*, cap. 30, 43.
- SOMBERG, Joan, 1968. Ujung Kulon, Indonesisch paradijs. *Panda-Nieuws*, 4(9): 2-6, 3 figs.
- SOMERVILLE, William, 1979. Narrative of his journeys to the Eastern Cape frontier and to Lattakoe 1799-1802. With a bibliographical introduction and map and a historical introduction and notes by Edna and Frank Bradlow: v, 255. Cape Town, Riebeeck society (Publications, second series, vol. 10).
- SONNE-HANSEN, Ralph, 1972. Observations on the Sumatran rhino (*Dicerorhinus sumatrensis*) at Copenhagen zoo. *Zoologische Garten*, (N.F.) 42(5/6): 296-303, figs. 1-6.
- SONNERAT, Pierre, 1782. *Voyage aux Indes Orientales et à la Chine, fait par ordre du Roi, depuis 1774 jusqu'en 1781, [etc.]*. II: iv, viii, v-viii, 298. Paris, l'Auteur, Froullé, Nyon, Barrois.
- SONNTAG, Frederick Maxwell, 1922. The comparative anatomy of the tongues of the mammalia - VII: Cetacea, Sirenia, and Ungulata. *Proceedings of the Zoological society of London*, 1922(2): 639-657, figs. 25-30.
- , 1925. The comparative anatomy of the tongues of the mammalia - XII: Summary, classification, and phylogeny. *Proceedings of the Zoological society of London*, 1925(1): 701-762, figs. 31-45.
- SORRELL, D.G., 1952. Wild life in southern Ethiopia. *Oryx*, 1: 285-290, 1 map.
- SOTANI, Katsunori, 1974. History of rhinoceroses in Japanese zoos (in Japanese, English summary). *Journal of the Japanese association of zoological gardens and aquariums*, 16(2): 44-47.
- SOTTAS, Henri, 1914. Etude sur la stèle C14 du Louvre. *Recueil de travaux relatifs à la*

- philosophie et à l'archéologie égyptiennes et assyriennes*, 36: 153-166.
- SOUBEIRAN, Jean Léon & Dabry de THIERSANT, 1874. La matière médicale chez les Chinois: iii, x, 319. Paris, G. Masson.
- SOUTH AFRICA NATIONAL PARKS BOARD, 1937. South Africa: Report of the National parks board of trustees for the year 1936. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 32: 20-22.
- SOWERBY, Arthur de Carle, 1930. Animal and plant life of the East Indies. *China Journal*, 13: 216-224, 15 figs.
- , 1934. The rhinoceros in China. *China Journal*, 20: 81, 1 pl.
- , 1939. Some Chinese animal myths and legends. *Journal of the North China branch of the Royal Asiatic Society*, 70: 1-20, 12 pls. 2 figs.
- SPANHEIM, Ezechiel, 1671. Dissertationes de praestantia et usu numismatum antiquorum, editio secunda, priori longe auctor & variorum numismatum iconibus illustrata: 920, index. Amstelodami, Daniel Elsevirius. (1st ed. 1664 without illustrations.)
- SPARRMAN, Andreas, 1778. Beskrifning om Rhinoceros bicornis. *Kungliga Svenska vetenskapsakademiens handlingar*, 39: 303-313, pl. 9. (Translated: Beschreibung des Nashorns mit zwey Hörnern. *Abhandlungen der kg. Schwedischen Akademie der Wissenschaften*, 40: 291-300, pl. 10 (1778).)
- , 1779. Description de l'organe de génération du rhinocéros à deux cornes. *Acta Academiae scientiarum imperialis Petropolitanae*, 1779 (pars prior): 64-65, pl. 1.
- , 1975-1977. Avoyage to the Cape of Good Hope, towards the antarctic polar circle, round the world and to the country of the Hottentots and the Caffres from the year 1772-1776. Based on the English editions of 1785-1786 published by Robinson, London. Edited by Prof. V.S. Forbes, translation from the Swedish revised by J. & I. Rudner, I: x, 331 (1975); II: viii, 296 (1977). Cape Town, Van Riebeeck society (Publications, second series, vols. 6, 7).
- SPEISER, Felix, 1973. Liebespiel bei Riesentieren. *Zoffi*, Basel, 30: 3-5, 7 figs.
- SPEKE, John Hanning, 1863. Journal of the discovery of the source of the Nile: xxxi, 658. Edinburgh/London, William Blackwood and sons.
- SPENSER ST. JOHN, 1863. Life in the forests of the Far East; or travels in Northern Borneo, II: xii, 424. London, Smith, Elder & Co.
- SPELICH, Martin, 1961. Eine Tierplastik des Thermenmuseums in Rom. *Archäologischer Anzeiger*, 76: 137-145, figs. 1-5.
- SPELLETT, J. Juan, 1966. A report on wild life surveys in North India and southern Nepal, January-June 1966. *Journal of the Bombay natural history society*, 63(3): 492-628, pls. 1-11, maps 1-8.
- , 1968. Status of the great Indian rhino. *Oryx*, 9(4): 252.
- SPINAGE, C.A., 1960. Some notes on the rhinoceros. *African wildlife*, 14(2): 95-100, 4 figs.
- , 1962. Aus dem Leben des Spitzmaulnashorns. *Kosmos*, 58: 77-79, 2 figs, 5 maps.
- & R.D. FAIRRIE, 1966. Removal of a snare from a white rhinoceros in the West Nile white rhino sanctuary. *East African wildlife journal*, 4: 149-151.
- SPINAZZOLA, Vittorio, 1913a. Di un rinoceronte marmoreo del Museo Nazionale di Napoli (preteso falso di Pompei). *Bollettino d'arte*, 7: 143-146, figs. 1-4.
- , 1913b. Ancora del rinoceronte marmoreo del Museo Nazionale di Napoli. *Bollettino d'arte*, 7: 343-344.
- SPIX, Johann Baptist von, 1815. Cephalogenesis sive capitis ossei structura, formatio et significatio per omnes animalium classes, familiae, genera ac actates digesta, atque tabulis illustrata, legesque simul psychologiae, cranioscopiae ac physiognomiae inde derivata: vi, 72, vi. Monachii, Franciscus Seraphicus Hübschmannius.
- STATHAM, John Charles Baron, 1922. Through Angola, a coming colony: xvi, 388. Edinburgh & London, William Blackwood and sons.
- STAUNTON, George T. (ed.), 1854. The history of the great and mighty kingdom of China and the situation thereof, compiled by the Padre Juan Gonzalez de Mendoza, and now reprinted from the early translation of R. Parke, II: i, 350. London, Hakluyt society.
- ST. CROIX, O.H. de, 1961. The white rhino of Hluhluwe. *Journal of the Bombay natural history society*, 58(2): 321-331, pls. 1-2.

- STEEDMAN, Andrew, 1835. Wanderings and adventures in the interior of southern Africa, I: xii, 330. London, Longman & Co.
- STEELE, Nick, 1960. Meeting of rhinos of two species. *Lammergeyer*, 1(1): 40.
- , 1969. Operatie rhino. *Zoo*, Antwerpen, 35(1): 5-10, 7 figs.
- STEENIS, Cornelis Gijbert Gerrit Jan van, 1938. Exploraties in de Gajo-landen: algemeene resultaten der Losir Expeditie 1937. *Tijdschrift van het Koninklijk Nederlands aardrykskundig genootschap*, (2) 55(5): 728-801. (Also: *Bulletin. Maatschappij ter bevordering van het natuurkundig onderzoek der Nederlandsche koloniën*, 97: 728-801, pls. 1-32, figs. 1-2, maps 1-2.)
- STEHLIN, Hans Georg, 1930. Bemerkungen zur Vordergebissformel der Rhinocerotiden. *Eclogae geologiae Helvetiae*, 23(2): 644-648, figs. 1-3.
- STEIER, August, 1895. Nashorn. Cols. 1780-1788 in: *Paulys Real-Encyclopädie der classischen Altertums-Wissenschaft*, neue Bearbeitung, XVI. Stuttgart, J.B. Metzler.
- STEINHAARDT, Julius, 1920. Vom wehrhaften Riesen und seinem Reich: 224. Hamburg, Berlin, Leipzig, Alster-Verlag.
- STEINMANN, A., 1934. Welke dieren vindt men op de Boroboedoer en op enkele Hindoe-Javaansche bouwwerken afgebeeld? *Tropische natuur*, 23(5): 86-96, pls. 1-4, figs. 1-18.
- STEINMANN, Johann H.C.G. Gustav & Ludwig DÖDERLEIN, 1890. Elemente der Paläontologie: xix, 848. Leipzig, Wilhelm Engelmann.
- STEINMETZ, H., 1940. Nachrichten aus Berlin. *Zoologische Garten*, (N.F.) 12(4/6): 335-343, figs. 1-8.
- , 1942. Berlin. *Zoologische Garten*, (N.F.) 14(5/6): 277-285, figs. 1-7.
- STERNDAL, Robert Armitage, 1884. Natural history of the mammalia of India and Ceylon: xxxii, 540. Calcutta, Thacker, Spink & Co.
- STEVENS, W.E., 1968. The rare large mammals of Malaya. *Malayan nature Journal*, 22(1): 10-17, fig. 1.
- STEVENSON-HAMILTON, James, 1919. Field-notes on some mammals in the Bahr-el-Gebel, southern Sudan. *Proceedings of the Zoological society of London*, 1919: 341-348, 1 map.
- , 1950. Wild life in South Africa: vi, 7-364. London etc., Cassel. (1st ed. 1947)
- STEWART, D.R.M. & John STEWART, 1963. The distribution of some large mammals in Kenya. *Journal of the East Africa natural history society and Coryndon museum*, 24(3): i-iii, 1-52.
- STEWART, John, 1971. Radio controlled rhinos? *Morgan's World*, 5(2): 9-12, 8 figs.
- STIGAND, Chauncey Hugh, 1909. The game of British East Africa: xi, 310. London, Horace Cox.
- STILL, Vladimir, 1970. Safari park in Czechoslovakia. *International zoo news*, 17(7/8): 249.
- STOCKLEY, Charles Hugh, 1928. Big game shooting in the Indian empire: x, 200. London, Constable & Co.
- , 1948. African camera hunts: ix, 182. London, Country Life.
- , 1950. The hook-lipped rhinoceros. *Zoo Life*, 5(3): 88-91, 3 figs.
- STÖNNER, Heinrich, 1925. Erklärung des Nashornreiters auf den Reliefs von Angkor-Vat. *Artibus Asiae*, 1(2): 128-130, figs. 1-2.
- STONEHOUSE, Bernhard, 1981. Red de dieren: 223. Weert, M & P Advertising.
- STONOR, Charles Robert, 1946. A visit to the great Indian rhino. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 53: 46-48.
- STOPPELAAR, C.F. de, 1976. Natuurbescherming in Nepal. *Panda-Nieuws*, 12(7/8): 98-103, 6 figs. 1 map.
- STOTT, Kenhelm W. Jr., 1948. Two many horns. *Zoosooz*, San Diego, 21(11): 3-4, 1 fig.
- , 1950a. Monster of the mist forests. *Natural History*, 59(1): 20-23, 4 figs.
- , 1950b. Locality records of African mammals. *Journal of mammalogy*, 31: 185-189.
- , 1963. As different as black and white. *Zoosooz*, San Diego, 36(1): 11-15, 4 pls, 1 map.
- , 1979. Another horn to toot. *Zoosooz*, San Diego, 51(5): 4-8, 7 figs.
- STRABO (60 B.C. - 20 A.D.). Geographia, XVI.4, 15.
- STRACEY, Patrick Donald, 1949. The vanishing rhinoceros and Assam's wild life sanctuaries. *Indian Forester*, 75: 470-473, 2 pls. (Also in: *Journal of the Bengal natural history society*, 25(2): 92-97 (1951).)
- , 1957. On the status of the great Indian rhinoceros (*R. unicornis*) in Nepal. *Journal of the*

Bombay natural history society, 54(3): 763-766, 1 map.

STRACK, Christian Friedrich Leberecht, [1819]. *Naturgeschichte in Bildern; mit erläuterndem Text*, I: Säugetiere. Düsseldorf, Arnz.

STRANGE, Guy le, 1912. Description of the province of Fars, in Persia, at the beginning of the twelfth century A.D., translated from the MS. of Ibn-al-Balki in the British Museum. *Journal of the Royal Asiatic Society*, 1912: 1-30.

STRASSBURGER, Suzanne, 1976. Around the San Diego wild animal park in May. *Zoonoos*, San Diego, 49(5): 6-11, 13 figs.

STREET, Philip, 1961. *Vanishing animals: preserving nature's rarities*: 232. London, Faber & Faber.

STREHL, G., 1893. Les lois de Manou, traduits du sanskrit. *Annales du Musée Guimet* (Bibliothèque d'Etudes), 2: ii-xxv, 1-402.

STRICKER, W., 1881. Zur Geschichte des Rhinoceros. *Zoologische Garten*, (A.F.) 22: 90.

STRICKLAND, David L., 1967. Ecology of the rhinoceros in Malaya. *Malayan nature journal*, 20(1/2): 1-17, pls. 1-2, fig. 1.

—, 1968. Rhino report. *Malayan nature journal*, 21(1): 80-81.

STRIEN, Nico J. van, 1974a. *Dicerorhinus sumatrensis* (Fischer): the Sumatran or two-horned Asiatic rhinoceros — a study of literature. *Mededelingen Landbouwhogeschool Wageningen*, 74(16): 1-82, 1 pl, figs. 1-2, maps 1-2. (Also in: *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 22 (1975).)

—, 1974b. De Sumatraanse neushoorn. *Panda-Nieuws*, 10(6): 61-64, 2 figs.

—, 1975. Rhino traps in the Gunung Leuser reserve. Sumatran rhinoceros international conservation program, special report 1: i-iii, 1-2, figs. 1-2, 1 map.

—, 1976a. The Gunung Leuser reserve. *Tiger Paper*, 3(4): 5-6, 2 figs, 1 map.

—, 1976b. Sumatran rhinoceros international conservation programme. *World Wildlife Yearbook*, 1975-76: 124-126.

—, 1976c. Rhino-poaching in the Gunung Leuser reserve. Sumatran rhinoceros international conservation program, special report 2: i-ii, 1-4, fig. 1, 1 map.

—, 1976d. Second and third Mamas expedition, September-December 1975. Sumatran rhinoceros international conservation program, progress report 3: i, 1-3, 1 map.

—, 1976e. Fourth, fifth and sixth Mamas expedition, January-July 1976. Sumatran rhinoceros international conservation program — intensive program, progress report 4: 1-6.

—, 1977a. *Dicerorhinus sumatrensis* or *Didermoceros sumatrensis*? *Tiger Paper*, 4(3): 16.

—, 1977b. Seventh Mamas expedition, August-December 1976. Sumatran rhinoceros international conservation programme, progress report 5: i, 1-3, 1 map.

—, 1977c. Eighth and ninth Mamas expedition, with an appendix on the logistics of jungle expeditions, January-April 1977. Sumatran rhinoceros international conservation programme, progress report 6: i, 1-2.

—, 1977d. Final report on the 1977 fieldwork: tenth Mamas expedition. Sumatran rhinoceros international conservation programme — intensive programme, progress report 7: i, 1-5.

—, 1978a. On the difference in the footprints of the Javan and the Sumatran rhinoceros. *Tiger Paper*, 5(4): 16-19, 2 figs.

—, 1978b. Nieuws over de Sumatraanse neushoorn. *Panda*, 14(3): 44, 1 fig.

—, 1979a. Nieuws over de Sumatraanse neushoorn. *Panda*, 15(9): 126.

—, 1979b. Neushoorns in Zuidoost-Azië, in het bijzonder in Noord-Sumatra. *Panda*, 15(11): 149-152, 4 figs.

—, 1979c. Onderzoek naar de neushoorns op Sumatra. *Vakblad voor biologen*, Hilversum, 59(4): 46.

—, 1979d. Annual report 1978: eleventh to thirteenth Mamas expedition. Sumatran rhinoceros international conservation programme — intensive programme, progress report 8: i, 1-7, maps 1-2.

—, 1981a. Survey of Sumatran rhino, Banumuda area, east Kalimantan. *World Wildlife Fund Yearbook*, 1980-81: 459-460.

—, 1981b. Indonesia, Gunung Leuser national park — Control and survey of Sumatran rhino area. *World Wildlife Fund Yearbook*, 1980-81: 460-461.

—, J. SUBIYANTO, M. Walodi ISKAN & Goenawan WHIDYOKO, 1979. Report on a survey of the

- proposed Banumuda extension of Kutai, East Kalimantan. Bogor, Cyclostyled: 1-4, 1 map.
- STRUGNELL, E.J. & E.S. WILLBOURN, 1932. An ascent of Gunung Benom from Raub. *Journal of the Malayan branch of the Royal Asiatic Society*, 9(1): 15-27, pls. 5-8, 1 map.
- STRZYGOWSKY, Josef, 1899. Der Bilderkreis des Griechischen Physiologus, des Kosmas Indikopleustes und Oktateuch nach Handschriften der Bibliothek zu Smyrna. *Byzantinisches Archiv*, 2: I-viii, 1-130, pls. 1-40, figs. 1-3.
- STUBENRAUCH, Victor H.W., 1963. Begegnungen mit dem Breitmaul-Nashorn. *Mitteilungen der Süd West Afrika-Wissenschaftlichen Gesellschaft*, 4(4/5): 10-11.
- STUTTERHEIM, C.J., 1980. Cleaning symbiosis involving pied crows and white rhino. *Lammergeyer*, 30: 61.
- SUETONIUS, C. Tranquillus (ca. 120). De vita Caesarum, II. 43. 4.
- SULLIVAN, Michael, 1973. Chinese art: recent discoveries: 64. London, Thames & Hudson.
- SUMATI, 1976a. The rhino - martyr to superstition. *Tiger Paper*, 3(2): 12-13, 1 fig.
- , 1976b. The rhino world. *Tiger Paper*, 3(3): 5-6, 3 figs.
- SUMMERS, Roger (ed.), 1959. Prehistoric rock art of the Federation of Rhodesia & Nyasaland: xx, 267. National publications trust, Rhodesia & Nyasaland.
- SUTCLIFFE, J.V., 1952. The game of the Aliab valley. *Sudan wildlife and sport*, 2(3): 18-22.
- SUTHERST, R.W., 1964. How Kenya saves its rhinos. *Animals*, 4(8): 214-219, 13 figs.
- SUVATTI, Chote, 1950. Fauna of Thailand: i, II, iii, 1100. Bangkok, Department of Fisheries.
- SWAEN, A.E.H., 1940. 'Voyage et aventures de François Leguat & de ses compagnons.' *Ardea*, 29(1): 19-44.
- SWAMMERDAM, Johannes Jacobus, 1679. Catalogus van een seer wel gestoffeerde Konstkamer, inhoudende een grote menichte van allerhande uytheemsche so natuurlijke als konstelijk uytgewoachte dingen, met overmoeden arbeit, ende meer als gemeene onkosten, in vijftigh jaeren tijds vergaert: 143. (Text in both Latin and Dutch; title also: Catalogus Musei instructissimi, etc.)
- SWANEPOEL, P.D., 1955. My first encounter with a black rhino. *African wildlife*, 9(3): 209-210, 1 fig.
- SWARA & KES HILLMAN, 1979. Trying to save the rhino. *Swara*, Nairobi, 2(3): 22-27, 12 figs.
- SWAYNE, Harold George Charles, 1894. Further field-notes on the game-animals of Somaliland. *Proceedings of the Zoological society of London*, 1894: 316-323.
- , 1895. Seventeen trips through Somaliland: a record of exploration & big game shooting, 1885 to 1893, being the narrative of several journeys in the hinterland of the Somali coast protectorate, dating from the beginning of its administration by Great Britain until the present time with descriptive notes on the wild fauna of the country: xx, 386. London, Rowland Ward.
- SWEENEY, R.C.H., 1959. A preliminary annotated check list of the mammals of Nyasaland: v, 72. Blantyre, The Nyasaland society.
- SWETTENHAM, Frank Athelstone, 1895. Malay sketches: xi, 289. London, John Lane/New York, MacMillan & Co.
- SWIERSTRA, K.N., 1888. Systematische naamlijst van gewervelde dieren, voor de diergaarde levend ingekomen van 1 Mei 1838 tot 30 April 1888. *Bijdragen tot de Dierkunde*, 1888 (3, feestno.): i, 1-104.
- SWYNNERTON, G.H., 1945. A revision of the type-localities of mammals occurring in the Tanganyika territory. *Proceedings of the Zoological society of London*, 115: 49-84.
- , 1959. Threat to . . . black rhino in East Africa. *Wild Life*, Nairobi, 1(1): 14-16, 1 fig.
- & R.W. HAYMAN, 1951. A checklist of the land mammals of the Tanganyika territory and the Zanzibar protectorate. *Journal of the East Africa natural history society*, 20: 274-392.
- SYMES, Michael, 1811. Embassy to Ava; sent by the Governor General of India in the year 1795 (London, 1800). Pp. 426-572 in: John Pinkerton (ed.), A general collection of the best and most interesting voyages and travels in all parts of the world, IX: iv, 828. London, Longman etc.
- TABERER, W.H.M., 1959. Amboseli - unique and wonderful game reserve full of animal personalities. *Wild Life*, Nairobi, 1(4): 16-19, 26, 3 figs.
- TACHARD, G., 1687. Voyage de Siam des Pères Jesuites, envoyé par le Roy, aux Indes & à la

- Chine: avec leur observations astronomiques, & leurs remarques de physique, de géographie, d'hydrographie, & d'histoire: x, 264, 133-227, x. Amsterdam, Pierre Mortier.
- TAKAGI, Shizuo; Masahiro KONDO, Shusaku NODA & Takeshi HIRONAO, 1964. Tuberculosis in a rhinoceros. *Bulletin of University of Osaka prefecture*, series B, 15: 125-130, figs. 1-5.
- TAKASHIMA, Haruo, 1961. Rhinos of the world (in Japanese). *Animals and zoo*, Tokyo, 13(11): 6-9, 4 figs.
- TALBOT, Lee Merriam, 1956. The Indian rhino, a living fossil. *Field*, 208: 576-577, 5 figs.
- , 1957. Stalking the great Indian rhino. *National geographic magazine*, 111: 388-398, 11 figs.
- , 1959. Marco Polo's unicorn. *Natural History*, 58: 558-565, 11 figs.
- , 1960. A look at the threatened species: a report on some animals of the Middle East and southern Asia which are threatened with extermination. *Oryx*, 5(4/5): 153-293.
- & M.H. TALBOT, 1961. How much does it weigh? *Wild Life*, Nairobi, 3(1): 47-48, 1 fig.
- TAMAN, I. Made, 1961. The protection of the two species of rhinoceros in Indonesia. *Abstracts of Symposium papers, Tenth Pacific science congress of the Pacific science association*, Honolulu: 242.
- TASSO, Torquato, 1784. *La Gerusalemme liberata*, seconda edizione, coi rami della edizione di Monsieur, II: iii, 334. Parigi, L'Ainé.
- TATE, George Henry Hamilton, 1947. *Mammals of eastern Asia*: xv, 366. New York, MacMillan & Co.
- TAVERNIER, Jean-Baptiste, 1777. *Travels in India*. Translated from the original French edition of 1676 with a biographical sketch of the author, notes, appendices, & c. by V. Ball, second ed., edited by William Crooke, I: xci, 335; II: xv, 399. New Delhi, Oriental books reprint Co. (1st ed. 1889; original: *Les six voyages de Jean-Baptiste Tavernier, qu'il a fait en Turquie, en Perse, et aux Indes*, etc. Paris, 1676.)
- TAYLOR, Basil, 1955. *Animal painting in England from Barlow to Landseer*: 71. Harmondsworth, Penguin books.
- , 1971. Stubbs: 220. London, Phaidon press.
- TAYLOR, E.G.R. (ed.), 1932. *A brief summe of geographie* by Roger Barlow, edited with an introduction and notes: lvi, 210. London, Hakluyt society (Works, second series, 69).
- TEHUPEIORU, J.E., 1906. *Onder de Dnjaks in centraal-Borneo: een reisverhaal*: xvi, 219. Batavia, G. Kolff/Leiden, E.J. Brill.
- TEMMINCK, Coenraad Jacob, 1835. *Coup-d'oeil sur la faune des îles de la Sonde et de l'empire du Japon: discours préliminaire destiné à servir d'introduction à la faune du Japon*: xxx. Leiden, Musée des Pays-Bas.
- , 1847. *Coup-d'oeil général sur les possessions Néerlandaises dans l'Inde archipélagique*, II: vi, 471. Leiden, A. Arnz & Co.
- TEMPESTA, Antonio, 1650. *Nova raccolta de li animali più curiosi del mondo designati et intagliati, è dati in luce per Gio: Tacomo Rosso*: i figs. 1-284. Roma.
- TEMPLE PERKINS, Eric Arnold, 1956. *Distribution of Uganda's fauna*. *Uganda wildlife and sport*, 1(1): 5-10.
- TENNANT, J.D., 1964. Guards stop the poachers. *Oryx*, 7(4): 152.
- TERTULLIANUS, Quintus Septimius, 1927. *Tot de natien - Tegen de Valentinianen - Tegen de Joden*: iii, 174. Leiden, A.W. Sijthoff (Oud-christelijke geschriften in Nederlandsche vertaling, 42).
- TEUSCHER, E. & H. STÜNZI, 1956. Ueber parasitologische Kotuntersuchungen bei Säugetieren des zoologischen Gartens Zürich. *Acta Tropica*, 13: 262-269.
- THAPAR, Gobindh Singh, 1924. On Kiluluma skriabin, a genus of Strongylid nematodes parasitic in the African rhinoceros. *Journal of helminthology*, 2: 209-238, figs. 1-43.
- , 1925. On some members of the genus Kiluluma from the African rhinoceros. *Journal of helminthology*, 3: 63-80, figs. 1-32.
- THAYER, Stuart, 1975. One sheet. *Bandwagon*, May/June 1975: 31.
- THENIUS, Erich, 1955a. Die Verknöcherung der Nasenschneidewand bei Rhinocerotiden und ihr systematischer Wert: zum Geschlechtsdimorphismus fossiler Rhinocerotiden. *Schweizerische paläontologische Abhandlungen*, 71(4): 1-18, 1 pl., figs. 1-21.
- , 1955b. Zur Kenntnis der unterpliozänen Dicerus-Arten (Mammalia, Rhinocerotidae).

- Annalen des Naturhistorischen Museums*, Wien, 60: 202-211, figs. 1-6.
- , 1969. Stammesgeschichte der Säugetiere (einschliesslich der Hominiden). *Handbuch der Zoologie*, 8 (2-1): i-viii, 1-722, figs. 1-715.
- , 1972. Grundzüge der Verbreitungsgeschichte der Säugetiere: eine historische Tiergeographie: x, 345. Jena, Gustav Fischer.
- & Helmut, HOFER, 1960. Stammesgeschichte der Säugetiere, eine Uebersicht über Tatsachen und Probleme der Evolution der Säugetiere: vi, 322. Berlin, Göttingen & Heidelberg, Springer.
- THEPASS, A.H., 1860. Slangenbeet met doodelijken afloop. *Geneeskundig tijdschrift voor Nederlandsch Indië*, (N.S.) 4: 565-580.
- THETARD, Henry, 1947. La merveilleuse histoire du cirque, I: 271. Paris, Prisma.
- THEVENOT, Jean de, 1666. Route du Voyage des Hollandois à Pekin. Part 2, pp. 1-28 in: Relations de divers voyages curieux qui n'ont point esté publiées ou qui ont esté traduites d'Haclyut, de Purchas, & d'autres voyageurs anglois, hollandois, portugais, allemands, espagnols; et de quelques Persans, Arabes, & autres auteurs orientaux, III: x, 31-68, 28, 216, 12. Paris, Sebastien Mabre-Cramoisy.
- , 1727. Les voyages aux Indes Orientales, contenant une description exacte de l'Indostan, des nouveaux Mogols, & des autres peuples & pais des Indes Orientales; avec leurs moeurs & Maximes, religions, fêtes, temples, pagodes, cimetières, commerce, & autres choses remarquables, 3rd ed., V: xii, 344, index. Amsterdam, Michel Charles le Cene.
- THEYET, André, 1557. Les singularitez de la France antarctique, autrement nommée Amerique: & de plusieurs terres & isles decouvertes de nostre temps: fols. 8, 167, 2. Paris, héritiers de Maurice de la Porte.
- , 1558. Les singularitez de la France antarctique . . . : fols. 8, 163, 2. Anvers, Christophe Plantin.
- , 1575. La cosmographie universelle, I: fols. 467. Paris, Guillaume Chaudiere.
- THIEME, HORST & Siegfried SEIFERT, 1978. Tierschauen in Leipzig zwischen 1650 und 1770. Pp. 3-17 in: Panthera 1978: Hundert Jahre Leipziger Zoo 1878-1978: 84. Leipzig, Zoologischer Garten.
- THIENEMANN, Georg August Wilhelm, 1856. Leben und Wirken des unvergleichlichen Thiermahlers und Kupferstechers Johann Elias Ridinger, mit dem ausführlichen Verzeichniss seiner Kupferstiche, Schwarzkunstsblätter und der von ihm hinterlassenen grossen Sammlung von Handzeichnungen: xxxi, 300. Leipzig, Rudolph Weigel.
- THOM, William Sinclair, 1935. Rhinoceros shooting in Burma. *Journal of the Bombay natural history society*, 38(1): 137-150, 1 pl.
- , 1943. A few notes about the five rhinoceros of the world. *Journal of the Bombay natural history society*, 44(2): 257-274.
- THOMA, Hans & Herbert BRUNNER, 1964. Schatzkammer der Residenz München: Katalog: iv, 391. München, Bayerische Verwaltung der Staatlichen Schlösser, Gärten und Seen.
- THOMAS, Harold Began & Robert SCOTT, 1935. Uganda: xx, 559. London, Oxford university press.
- THOMAS, H. Leigh, 1801. An anatomical description of a male rhinoceros. *Philosophical Transactions of the Royal Society of London*, 91(1): 145-152, pl. 10.
- THOMAS, Oldfield, 1885. Report on the mammals obtained and observed by Mr. H.H. Johnston on Mount Kilima-njaro. *Proceedings of the Zoological society of London*, 1885: 219-222, pl. 12.
- , 1900. The white rhinoceros on the upper Nile. *Nature*, 62: 599.
- , 1901. Notes on the type specimen of *Rhinoceros lasiotis* Selater; with remarks on the generic position of the living species of *Rhinoceros*. *Proceedings of the Zoological society of London*, 1901(2): 154-158.
- , 1911. The mammals of the tenth edition of Linnaeus; an attempt to fix the types of the genera and the exact bases and localities of the species. *Proceedings of the Zoological society of London*, 1911(1): 120-158.
- , 1929. On mammals from the Kaoko-veld, South-West Africa, obtained during captain Shortridge's fifth Percy Sladen and Kaffrarian museum expedition. *Proceedings of the Zoological society of London*, 1929(1): 99-111.

- THOMSON, Joseph, [1883?]. Through Masai Land: a journey of exploration among the snowclad volcanic mountains and strange tribes of eastern Equatorial Africa, new and revised ed.: xvi, 364. London, Sampson Low, Marston & Co.
- THOMSON, J.K., F.W. PRIESTLEY & J.B. POLDING, 1949. Enteritis of a white rhinoceros associated with *Pseudomonas pyocyanea* infection. *Veterinary record*, 61: 341.
- THORNBACK, L. Jane, 1981a. Black rhino. IUCN Red Data book, Cambridge: 1-5.
- , 1981b. Northern square-lipped rhino. IUCN Red Data book, Cambridge: 1-4.
- THUNBERG, Karl Peter, 1792. Reise durch einen Theil von Europa, Afrika und Asien, hauptsächlich in Japan, in den Jahren 1770 bis 1779. Aus dem Swedischen übersetzt von Christian Heinrich Groskund, I (erster Theil): xx, 292; II (zweiter Theil): xviii, 266. Berlin, Haude & Spener.
- , 1811. Mammalia capensia, recensita et illustrata. *Mémoires de l'Académie impériale des sciences de St. Petersburg*, 3: 299-323.
- TILLEMA, Hendrik Frerik, [1936]. Apo-Kajan, een filmreis naar en door centraal-Borneo: 267. Amsterdam, Van Munster.
- TIMOTHEUS of Gaza (ca. 510), 1949. On animals. Fragments of a byzantine paraphrase of an animal-book of the 5th century A.D., edited by F.S. Bodenheimer and A. Rabinowitz: v, 54. Leiden, E.J. Brill (Collection de travaux de l'Académie internationale d'histoire des sciences, 3).
- TINLEY, K.L., 1971. The case for saving Etosha. *African wildlife*, 25 (1) Supplement: 1-16, 12 figs, 5 maps.
- TIADER, Richard, 1911. The big game of Africa: xx, 364. London & New York, D. Appleton & Co.
- TIEBCK WILLINK, Herman Diederik, 1905. Mammalia voorkomende in Nederlandsch-Indië. *Natuurkundig tijdschrift van Nederlandsch Indië*, (10) 65(9): 153-345.
- TOLDT, Karl Jr., 1914. Ueber die äussere Körpergestalt eines Fetus von *Elephas maximus* (=indicus) L., nebst vergleichende Betrachtungen über sein Integument, insbesondere über die Behaarung. *Denkschriften der kaiserlichen Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse*, 90: 259-300, pls. 1-5.
- TOMLINSON, D.N.S., 1977. White rhinos return to Rhodesia. *Oryx*, 14(2): 145-150, 1 fig, 1 map.
- TONG, E.H., 1952a. Report from Whipsnade. *Zoo Life*, 7(2): 52-53, 2 figs.
- , 1952b. Report from Whipsnade. *Zoo life*, 7(3): 96-97 3 figs.
- , 1954. Report from Whipsnade. *Zoo Life*, 9(2): 58-62, 4 figs.
- , 1958. Notes on the breeding of Indian rhinoceros, *Rhinoceros unicornis* at Whipsnade park. *Proceedings of the Zoological society of London*, 130(2): 296-299.
- , 1961. The breeding of the great Indian rhinoceros at Whipsnade park. *International Zoo Yearbook*, 2: 12-15.
- TONGUE, M. Helen, 1909. Bushman paintings: 47. Oxford, Clarendon press.
- TOOVEY, John, 1979. African plains exhibit at Whipsnade park. *International Zoo Yearbook*, 19: 270-274, pls. 55-57, figs. 1-2.
- TOPSELL, Edward, 1607. The historie of foure-footed beastes: describing the true and lively figure of every beast, with a discourse of their several names, conditions, kindes, vertues (both naturall and medicinall), countries of their breed, their love and hate to mankind, and the wonderfull worke of God in their creation, preservation and destruction, . . . collected out of all the volumes of Conradus Gesnerus, and all other writers to this present day: xli, 759, x. London, William Iaggard.
- TOULA, Franz, 1902. Das Nashorn von Hundsheim, Rhinoceros (*Ceratorhinus* Osborn) hundsheimensis nov. form., mit Ausführungen über die Verhältnisse von elf Schädeln von Rhinoceros (*Ceratorhinus*) sumatrensis. *Abhandlungen der k.k. Geologischen Reichsanstalt*, 19(1): 1-92, pls. 1-12, figs. 1-25.
- TOURNEUX, Maurice, 1877. Correspondance littéraire, philosophique et critique par Grimm, Diderot, Raynal, Meister, etc., I: i, vii, 502. Paris, Garnier frères.
- TOYNBEE, J.M.C., 1973. Animals in Roman life and art: 431. London, Thames and Hudson.
- TREMLET, J.G., 1964. Observations on the pathology of lesions associated with *Stephanofilaria dinniki* Round, 1964 from the black rhinoceros (*Diceros bicornis*). *Journal*

- of *helminthology*, 38(1/2): 171-174, pls. 1-2.
- TROUSSART, Edouard Louis, 1898. Catalogus mammalium tam viventium quam fossilium, nova editio (prima completa), II: v, 665-1469. Berolini, R. Friedländer & Sohn.
- , 1908. Le rhinocéros blanc, retrouvé au Soudan, est la licoène des anciens. *Comptes Rendus hebdomadaires des Séances de l'Académie des sciences*, Paris, 147: 1352-1355.
- , 1909. Le rhinocéros blanc du Soudan (*Rhinoceros simus cottoni*). *Proceedings of the Zoological society of London*, 1909(1): 198-200, pls. 29-31.
- TRUE, Frederick William, 1893. An annotated catalogue of the mammals collected by Dr. W.L. Abbott in the Kilima-Njaro region, East Africa. *Proceedings of the United States national museum*, 15: 445-480, pls. 75-80, figs. 1-5.
- TUN Yin, U., 1954a. A note on the position of rhinoceros in the Union of Burma (1953). *Journal of the Bombay natural history society*, 52(1): 83-87.
- , 1954b. Wild life preservation and sanctuaries in the Union of Burma. *Journal of the Bombay natural history society*, 52(2/3): 264-284, 1 map.
- , 1954c. A supplementary note on the status of rhinoceros and thamin (*Panolia eldi thamin*) in the Union of Burma, 1953. *Journal of the Bombay natural history society*, 52(2/3): 301-303.
- , 1955a. A supplementary note on the status of rhinoceros in the Union of Burma - 1955. *Journal of the Bombay natural history society*, 53(2): 257-258.
- , 1955b. Wild life preservation in Burma. *Oryx*, 3(2): 89-98, 1 map.
- , 1956. Rhinoceros in the Kachin state. *Journal of the Bombay natural history society*, 53(4): 692-694.
- , 1967. Wild animals of Burma: ix, xi, 301. Rangoon, Rangoon Gazette.
- , 1980. Present status of the Asian two-horned rhinoceros in the Socialist republic of the Union of Burma. *Hornbill*, Bombay, 1980(3): 13.
- TUREK, Ant., 1961. The projected pachyderm house at Prague zoo. *International zoo Yearbook*, 2: 5-8.
- TURNER, D.P., 1937. Some notes on the game of the British Somaliland boundary. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 31: 56-62.
- TURNER, Elvie Jr., 1961. The large mammal building at Dallas zoo. *International Zoo Yearbook*, 2: 1-2, pls. 1-3.
- TURNER, R.M. & M.L.M. WATSON, 1964. A census of game in Ngorongoro crater. *East African wildlife journal*, 2: 165-168, fig. 1.
- TURPIN, François Henri, 1811. History of Siam (From the French, Paris, 1771). Pp. 573-655 in John Pinkerton (ed.), A general collection of the best and most interesting voyages and travels in all parts of the world, IX: iv, 828. London, Longman etc. (Original: Histoire civile et naturelle du royaume de Siam. Paris, 1771.)
- UGANDA GAME DEPARTMENT, 1930. Uganda protectorate: extracts from the annual report of the Game department, 1928. *Journal of the Society for the preservation of the wild fauna of the Empire*, (N.S.) 11: 19-32.
- , 1950. Uganda (From the 1949 Report of the Game department). *Oryx*, 1(2): 89-99.
- , 1952. Uganda (From the 1950 Report of the Game department). *Oryx*, 1(5): 295-305.
- , 1953. Uganda Game department report, 1951: extracts and comments. *Oryx*, 2(1): 33-36.
- , 1954. Uganda (From the 1952 Report of the Game department). *Oryx*, 2(5): 302-307.
- , 1962. Square-lipped rhino transported in Uganda. *African wildlife*, 16(1): 77.
- ULLRICH, Ursula & Wolfgang ULLRICH 1968. Im Dschungel der Panzernashörner, 3rd ed.: 236. Radebeul, Neumann.
- ULLRICH, Wolfgang, 1955. Bemerkenswerte Aufnahmen eines jungen Sumatra-Nashorns (*Dicerorhinus sumatrensis* Cuv.). *Zoologische Garten*, (N.F.) 22(1/3): 29-33, figs. 1-2.
- , 1964. Zur Biologie der Panzernashörner (*Rhinoceros unicornis*) in Assam. *Zoologische Garten*, (N.F.) 28(5): 224-250, figs. 1-17.
- , 1965a. Neue Feststellungen über den Schutz des Panzernashorns (*Rhinoceros unicornis*) in Bengalen und Assam. *Zoologische Garten*, (N.F.) 31(1/2): 101-103.
- , 1965b. Die Einhörner von Kaziranga. *Freunde des Kölner Zoo*, 8(3): 98-100, 6 figs.
- , 1967. Nashornstrassen in Assam. Pp. 56-67, figs. 1-16 in: Heini Hediger (ed.), Die

- Strassen der Tiere: ii, 313. Braunschweig, Friedr. Vieweg & Sohn.
- , 1970. Die Bedeutung der Gras- und Waldbrände für die Ökologie des Kaziranga-Reservates in Assam. *Zoologische Garten*, (N.F.) 38(3/4): 97-106, figs. 1-5.
- , 1972. Kaziranga: Tierparadies am Brahmaputra: 216. Leipzig, Jena, Berlin, Urania.
- ULMER, Frederick Alexander Jr., 1941. The living rhinoceros. *Fauna*, Philadelphia, 3(1): 3-11, 9 figs, 5 maps.
- , 1956. Compatible rhinos - a rare prize for any zoo. *America's first zoo*, Philadelphia, 8(4): 7, 1 fig.
- , 1958. On breeding rhinoceroses. *America's first zoo*, Philadelphia, 10(3): 3-6, 5 figs.
- , 1959. The golden age of zoo exhibits. *America's first zoo*, Philadelphia, 11(1): 5-9, 4 figs.
- UNBEGAUN, Boris Otto Kar, 1956. Wie hiess das Rhinoceros im Altrussischen? Pp. 546-551 in: Festschrift für Max Vasmer zum 70. Geburtstag. Wiesbaden - Veröffentlichungen der Abt. für slavische Sprachen und Literaturen des Ost-Europa-Instituts (Slavisches Seminar) an der Freien Universität Berlin, vol. 9.
- UNDERWOOD, R., 1982. Seasonal changes in African ungulate groups. *Journal of zoology*, 196(2): 191-205, figs. 1-3.
- URBAN, Emil K. & Leslie H. BROWN, 1968. Wildlife in an Ethiopian valley. *Oryx*, 9(5): 342-353, 1 map.
- VAGELER, P., 1927. Ein neues Rhinoceros. *Umschau in Wissenschaft und Technik*, 31: 289-290, figs. 1-2.
- VAGNER, Josef, 1980. Philosophy and results of breeding endangered species at Dvur Kralove n.l. *International Zoo Yearbook*, 20: 123-127.
- VAIDYA, Suresh, 1967. Ahead lies the jungle: iii, 216. Bombay, Jaico (Jaico shikar series J-265). (1st ed. 1958)
- VAIL, R. W. G., 1956. Random notes on the history of the early American circus: x, 92. Barre, Mass., Barre Gazette.
- VAISSIÈRE, Pierre de (ed.), 1897. Journal de Jean Barrillon, secrétaire du Chancelier Duprat, 1515-1521 publié pour la première fois pour la Société de l'histoire de France, t. v, 333: Paris, Renouard.
- VALENTINI, Michael Bernhard, 1714. Museum museum, oder vollständige Schau-Bühne aller Materialien und Specymen, nebst deren natürlichen Beschreibung, Election, Nutzen und Gebrauch, etc., 2nd ed., I. xxii, 520. Frankfurt a.M., Johann David Zainers.
- VALERIANUS, Joannis Pierius, 1631. Hieroglyphica, sive de sacris Aegyptiorum aliarumq; gentium litteris, commentatorium libri LVIII. cum duobus aliis ab eruditissimo viro annexis: lix, 760, index. Coloniae Agrippinae, Officina Hieratorum.
- VANDELEUR, Seymour, 1898. Campaigning on the upper Nile and Niger: xxvii, 320. London, Methuen & Co.
- VARTHEMA OF BOLOGNA, Ludovico di, 1928. The itinerary of ... from 1502 to 1508 as translated from the original Italian edition of 1510, by John Winter Jones in 1863 for the Hakluyt society, with a discourse on Varthema and his travels in southern Asia by Sir Richard Carnap Temple: lxxxv, 121. London, Argonaut press.
- VATER, Christianus, 1679. Disquisitionem naturalem de unicornu, sub praesidio ... Simonis Friderici Frenzelii: xxiv. Wittebergae, Johannes Wilckii.
- VENTER, C.J., 1965. The first rhino calves born in the Kruger. *Oryx*, 8(1): 32.
- VERBEKE, R.D.M., 1883. Topographische en geologische beschrijving van een gedeelte van Sumatra's westkust: xx, 674. Batavia, Landsdrukkerij.
- VERHUELL, Quirijn Maurits Rudolph, 1836. Herinneringen van een reis naar de Oost-Indiën, II; x, 247. Haarlem, Vincent Loosjes.
- VERNAY, Arthur S., 1924. Hunting the Sumatran rhinoceros. *Natural History*, 24: 625-627, 2 figs.
- VERSCHUREN, Jacques, 1958. Le statut actuel des grands ongulés du Congo Belge et du Ruanda-Urundi principalement dans les parcs nationaux du Congo Belge. *Mammalia*, 22: 406-417.
- , 1970. Disaster for Congo's white rhinos. *Oryx*, 10(4): 208.
- , 1971. Fauna in Kongo-Kinsjasa wordt ernstig bedreigd. *Panda-Nieuws*, 7(7/8): 65.

- , 1975. Wildlife in Zaire. *Oryx*, 13(2): 149-163, 7 figs.
- , 1978. Les grands mammifères du Burundi. *Mammalia*, 42(2): 209-224, pl. 9, 1 map.
- VERWEY, J.E.M., 1969. White rhinos brought to Kruger national park, South Africa. *Biological conservation*, 2(1): 17, fig. 1.
- , 1971. Black rhino rescue campaign in Rhodesia. *Biological conservation*, 3(2): 152-153, figs. 1-2.
- VESELOVSKY, Zdenek & Alena VESELOVSKY, 1968. Beobachtungen aus dem Kaziranga Naturschutzgebiet. *Freunde des Kölner Zoo*, 11(3): 77-81, 10 figs.
- VETH, P.J., 1854. Borneo's Westers-afdeeling: geographisch, statistisch, historisch, voorafgegaan door eene algemeene schets des ganschen eilands, I: i, xix, xcvi, 383. Zaltbommel, Joh. Noman en zoon.
- , 1873. Het eiland Sumatra: iii, 661-797. Amsterdam, P.N. van Kampen & Zn. (Reprinted from 'Aardrijkskundig. Statistisch woordenboek van Nederlandsch Indië' 1867.)
- , 1882. Java, geographisch, ethnologisch, historisch, III: xii, 1100. Haarlem, erven F. Bohn.
- VEYERS, G.M., 1947. Recent additions to the zoo. *Zoo Life*, 2(3): 86-87, 3 figs.
- VIALLI, Vittorio, 1955. Su una anomalia nella dentatura di un rinoceronte Africano. *Natura*, Milano, 46: 131-134, 1 fig.
- VINCENT, John, 1968. Movement of square-lipped (white) rhinoceros *Ceratotherium simum* *simum*. *Lammergeyer*, 9: 23-25.
- , 1969a. The status of the square-lipped rhinoceros, *Ceratotherium simum* *simum* (Burchell), in Zululand. *Lammergeyer*, 10: 12-21, figs. 1-2.
- , 1969b. Movement of square-lipped rhinoceroses *Ceratotherium s. simum*. *Lammergeyer*, 10: 92.
- , 1970a. Movement of square-lipped rhinoceroses *Ceratotherium s. simum*. *Lammergeyer*, 11: 80.
- , 1970b. Movement of the square-lipped rhinoceroses *Ceratotherium simum* *simum*. *Lammergeyer*, 12: 73.
- , 1971. Movement of square-lipped rhinoceroses *Ceratotherium simum* *simum*. *Lammergeyer*, 13: 55.
- VIRCHOW, Hans, 1910. Die Wirbelsäule des abessinischen Nashorns (*Biceros bicornis*) nach Form zusammengesetzt. *Sitzungsberichte der königlich Preussischen Akademie der Wissenschaften zu Berlin*, 1910(2): 848-864, figs. 1-9.
- VIREY, Jean, 1958. *Perissodactyla*. Pp. 368-475, figs. 1-112 in: Jean Piveteau (ed.), *Traité de paléontologie*, VI (volume 2): Mammifères, évolution: vii, 962. Paris, Masson et cie.
- VOGEL, (?), 1817. Analyse des Urins vom Rhinoceros und vom Elephanten. *Journal für Chemie und Physik (J.S.C. Schweigger)*, Nürnberg 19: 156-165. (Abstract in: *Journal de Physique*, Paris, 85: 332 (1817).)
- VOGEL, Johann Wilhelm, 1716. Zehen-jährige, jetzo aufs neue revidirt- und vermehrte Ost-Indianische Reise-Beschreibung: unpag., 720, index. Altenburg, Joh. Ludwig Richter.
- VOGT, Carl, 1884. Les mammifères (Edition française originale): i, xxvii, 548. Paris, G. Masson.
- VOLKMAN, D.J., 1779. Hedendaagsche historie van, en reis-boek door Italiën. [etc.], IV: vii, 391. Amsterdam, Martinus de Bruijn.
- VOLZ, Wilhelm, 1912. Nord-Sumatra: Bericht über eine im Auftrage der Humboldt-Stiftung der Königlich Preussischen Akademie der Wissenschaft zu Berlin in den Jahren 1904-1906 ausgeführte Forschungsreise, II: Die Gajohländer: xxi, 428. Berlin, Dietrich Reimer.
- VOOGD, C.N.A.de, 1933. De rhinoceros uit Zuid Sumatra nu bijna verdwenen. *Tropische natuur*, 22(8): 159-160.
- & G.F.H.W. RENGERS HORA SICCAM, 1939. Berichtgeving omtrent natuurbescherming over 1936-1938: onderwerpen van lokalen aard, residentiegewijs gerangschikt. *Drie jaren Indisch natuurleven, verslag van de Nederlandsch Indische vereniging tot natuurbescherming*, 11: 49-154.
- Vos, V. de, 1975. Death due to volvulus in a white rhinoceros *Ceratotherium simum* from the Kruger national park. *Koedoe*, 18: 199-202, fig. 1.
- , 1980. Black rhinoceros *Diceros bicornis* minor mortality in the Kruger national park.

- Koedoe, 23: 188-189.
- & H.H. BRAACK, 1980. Castration of a black rhinoceros *Diceros bicornis minor*. *Koedoe*, 23: 185-187, fig. 1.
- VOSSIUS, Gerardus Joannis, 1700. De theologia gentili, et physiologia christiana; sive de origine ac progressu idololatriae; deque naturae mirandis, quibus homo adducitur ad Deum, libri IX: xvi, 830, index. Amstelodami, P. & J. Blaeu.
- VRIES, S. de, 1682. Curieuse aenmerckingen der bijzonderste Oost en West-Indische verwonderens-waerdige dingen; nevens die van China, Africa, en andere gewesten des werelds, II: 495-1328, index. Utrecht, Johannes Ribbinius.
- VROLIK, G., 1830. Over het aanwezen van voortanden en over het getal ribben by den afrikaanschen rhinoceros. *Bijdrage tot de natuurkundige wetenschappen*, 5: 377-386, figs. 1-2. (Translated: Notice sur les dents incisives et le nombre des côtes du rhinocéros africain. *Annales des sciences naturelles*, Paris, (2) 7: 20-26, pl. 1B (1837).)
- WACKERNAGEL, Hans, 1962. Von unseren Nashörnern. *Zollü*, Basel, 8: 5-14, figs. 1-7.
- WADAGAKI, K., 1898. Monoceros, the Rishi. *Hansei Zasshi*, 13(1): 19-24.
- WAGNER, Andreas, 1850. Ueber die erste Abbildung des in der hiesigen zoologischen Sammlung aufgestellten Nashorns aus Abyssinien. *Bulletin der Königlichen Akademie der Wissenschaften*, München, 1850(3): 22-23.
- WAHLBERG, Johann August, 1845. Bericht über seine Reise in südlichen Afrika vom Junius 1843 bis zum December 1844. *Archiv skandinavischer Beiträge zur Naturgeschichte*, 1: 413-429.
- WALKER, Alfred O., 1875. The rhinoceros in New Guinea. *Nature*, 11: 248.
- WALKER, Ernest Pilsburg, 1964. Mammals of the world, II: viii, 647-1500. Baltimore, John Hopkins press.
- WALKER, E. Sherbrooke, 1971. The irascible rhino: a testy neighbour with unsociable habits. *Field*, 238: 766.
- WALLACE, Alfred Russel, 1869. The Malay archipelago: land of the orang-utan, and the bird of paradise: a narrative of travel, with studies of man and nature, I: xxiii, 478. London, MacMillan & Co.
- , 1874. Exhibition of some rhinoceros-horns obtained by Mr. Everett in Borneo. *Proceedings of the Zoological society of London*, 1874: 498-499.
- , 1876. The geographical distribution of animals with a study of the relations of living and extinct faunas as elucidating the past changes of the earth's surface, I: xxiv, 503; II: xi, 607. London, MacMillan & Co.
- WALLACE, J.D. 1966. Immobilization and translocation of the white (square-lipped) rhinoceros. *Journal of the American veterinary medical association*, 149(7): 871-874.
- , 1969. Hand-rearing and observations of a white rhinoceros, *Diceros s. simus*. *International Zoo Yearbook*, 9: 103-104.
- WALLER, Richard, 1971. The great Indian rhino, a struggle for survival. *Animals*, 13(18): 830-833, 3 figs.
- , 1972a. The great Indian one-horned rhinoceros (*Rhinoceros unicornis*) with special reference to its main sanctuary, Kaziranga, in Assam. *Cheetal*, Dehra Dun, 15(1): 5-10, 9 figs.
- , 1972b. Observations on the wildlife sanctuaries of India. *Journal of the Bombay natural history society*, 69(3): 574-590.
- WALLIS, J.P.R. (ed.), 1946. The Northern Goldfield diaries of Thomas Baines: first journey 1869-1870, I: xxxviii, 277. London, Chatto & Windus.
- WARD, John & David S. SORRELL, 1950. The fauna of Jubaland. *Oryx*, 1(1): 26-34, 1 map.
- WARD, Rowland, 1896. Records of big game containing an account of their distribution, descriptions of species, lengths and weights, measurements of horns and field notes for the use of sportsmen and naturalists: iv-xvi, 325. London, Rowland Ward & Co.
- & Richard LYDEKKER, 1912. Remarkable rhinoceros horn. *Field*, 119: 148, 1 fig.
- WARMINGTON, Eric Herbert, 1974. The commerce between the Roman Empire and India, 2nd ed.: xiv, 417. London, Curzon press/New York, Octagon books. (1st ed. Cambridge university press, 1928.)

- WARNECKE, M. & R. GÖLTENBOTH, 1977. Ueber das Auftreten der Magenbremse, *Gyrostigma conjungens* Enderlein, bei zwei Spitzmaulnashörnern (*Diceros bicornis* L.) des Berliner zoologischen Gartens. *Berliner und Münchener tierärztliche Wochenschrift*, 90: 159-160, figs. 1-3.
- WATERHOUSE, George Robert, 1838. Catalogue of the mammalia preserved in the Museum of the Zoological society of London, 2nd ed.: 58. London, Richard and John E. Taylor.
- WATERSCHOOT VAN DER GRACHT, W.A.J.M. van, 1928. Piek van Indrapoera. *Mededelingen Nederlandsche commissie voor internationale natuurbescherming*, 5: 56-58.
- WATSON, John M., 1945. A new ophryoscolecoid ciliate, *Entodinium insolitum*, sp. n., from the Indian rhinoceros. *Proceedings of the Zoological society of London*, 114(4): 507-522, figs. 1-4.
- , 1949. The wild mammals of Teso and Karamoja, III. *Uganda journal*, 13(2): 182-201, figs. 7-11.
- WATSON, R.M. & M.I.M. TURNER, 1965. A count of the large mammals of the Lake Manyara national park: results and discussion. *East African wildlife journal*, 3: 95-98, figs. 1-2.
- WAYRE, Philip, 1968. The golden langur and the Manas sanctuaries. *Oryx*, 9(5): 337-339.
- WEATHERBE, d'Arcy, 1939. Memorandum on the Kahilu sanctuary. *Journal of the Bombay natural history society*, 41(1): 146-160, 2 pls.
- , 1940. Burma's decreasing wild life. *Journal of the Bombay natural history society*, 42(1): 150-160, 2 pls.
- WEBER, Max, 1904. Die Säugetiere: Einführung in die Anatomie und Systematik der recenten und fossilen mammalia: xii, 806. Jena, Gustav Fischer.
- WEBER, Rudolf, 1942. Joseph Pallenberg 60 Jahre alt. *Zoologische Garten*, (N.F.) 14(4): 200-204, figs. 1-6.
- WEIHRACH, Hans R., 1967. Europäische Bronzestatuetten, 15.-18. Jahrhundert: 539. Braunschweig, Klinkhardt & Biermann.
- WEINLAND, D.S., 1862. Ueber den Regents-Park bei London. *Zoologische Garten*, (A.F.) 3(6): 125-134.
- WEISS, R., 1974. Ueber eine Trichophytie bei Breitmaulnashörnern (*Ceratotherium simum*, Burchell). *Mykosen*, 17(6): 137-139.
- WERKEN, Hans van de, 1966a. Tsavo-Oost en Tsavo-West: op safari in Afrika. *Artis*, Amsterdam, 11(6): 190-211, 25 figs.
- , 1966b. Amboseli: op safari in Afrika. *Artis*, Amsterdam, 12(1): 18-31, 16 figs.
- , 1968. Neushoorns. *Artis*, Amsterdam, 13(6): 204-211, 13 figs.
- WESTERMANN, Jan H., 1939. Natuur in Zuid- en Oost-Borneo: fauna, flora en natuurbescherming in de zuider- en ooster-afdeeling van Borneo. *Drie jaren Indisch natuurleven, verslag van de Nederlandsch Indische vereeniging tot natuurbescherming*, 11: 334-411, figs. 136-153, 5 maps.
- WESTERN, David & Daniel M. SENDIVO, 1972. The status of the Amboseli rhino population. *East African wildlife journal*, 10(1): 43-57, figs. 1-2.
- WHEATLEY, Paul, 1959. Geographical notes on some commodities involved in Sung maritime trade. *Journal of the Malayan branch of the Royal Asiatic society*, 32(2): 1-140, figs. 1-17.
- WHITE, J. Claude, 1909. Sikkim & Bhutan: twenty-one years on the North-East frontier 1887-1908: xix, 332. Delhi, Vivék.
- WHITNEY, Scott, 1971. Crisis in Nepal. *Karatasi Yenze Habari*, Kingsport, 19(2): 26-29, 2 figs, 2 maps.
- WICKENBURG, Eduard, 1899. Wanderungen in Ost-Afrika: xii, 440. Wien, Gerold & Cie.
- WILHELM, J.H., 1933. Das Wild des Okavangogebietes und des Caprivizipfels. *Journal of the South West African scientific society*, 6: 51-74, 15 figs.
- , 1950. Das Wild des Okavangogebietes und des Caprivizipfels. *Journal of the South West African scientific society*, 7: 1-71, 1 fig, 1 map.
- WILLAN, R.G.M., 1965a. The Chitawan wild life sanctuary in Nepal. *IUCN Bulletin*, (N.S.) 1 (17): 8.
- , 1965b. Rhino increase in Nepal. *Oryx*, 8(3): 159-160.
- WILLIAMS, S. Wells, 1856. Chinese commercial guide, consisting of a collection of details and regulation respecting foreign trade with China, sailing directions, tables & c., 4th ed.: viii,

376. Canton, Office of the Chinese repository.
- WILLIAMSON, Thomas, 1807. Oriental field sports; being a complete, detailed, and accurate description of the wild sports of the East, [etc.]: ii, iii, 150. London, Edward Orme.
- WILLOUGHBY, John C., 1889. East Africa and its big game: the narrative of a sporting trip from Zanzibar to the borders of the Masai: xii, 312. London & New York, Longmans, Green & Co.
- WILSON, Alban 1924. Sport and service in Assam and elsewhere: xv, 16-320. London, Hutchinson & Co.
- WILSON, H.H., 1836. Notes on the India of Ctesias. *Transactions of the Ashmolean society*, Oxford, 1(6): 1-80.
- WILSON, R.T., 1979. Wildlife in southern Darfur, Sudan: distribution and status at present and in the recent past. *Mammalia*, 43(3): 323-338, fig. 1.
- , 1980. Wildlife in northern Darfur, Sudan: a review of its distribution and status in the recent past and present. *Biological conservation*, 17: 85-101, fig. 1.
- WILSON, Vivian J., 1969. The large mammals of the Matopos national park. *Arnoldia*, 4(13): 1-32, pl. 1, fig. 1.
- & P.W. EDWARDS, 1965. Data from a female rhinoceros and foetus (*Diceros bicornis* Linn.) from the Fort Jameson district. *Paku*, 3: 179-180.
- WILWERDING, W.J., 1945. Dangerous animals of Africa. *Fauna*, Philadelphia, 7(3): 66-71, 4 figs.
- WINDECKER, Wilhelm, 1970. Jahresbericht des zoologischen Gartens Köln 1969. *Freunde des Kölner Zoo*, 13(1): 27-38, 12 figs.
- WINDSOR, R.S. & W.A. ASHFORD, 1972. Salmonella infection in the African elephant and the black rhinoceros. *Tropical animal health & production*, 4: 214-219.
- WINKLER, Hans A., 1938. Rock-drawings of southern upper Egypt, I. Sir Robert Mond desert expedition, season 1936-1937, preliminary report. London, Egypt exploration society.
- WINTERGERST, Martin, 1932. Reisen auf dem Mittelländischen Meere, der Nordsee, nach Ceylon und nach Java 1688-1710. Neu herausgegeben nach der zu Memmingen im Verlag von Johann Wilhelm Müller im Jahre 1712 erschienenen Original-Ausgabe, II: xi, 153. Haag, Martinus Nijhoff.
- WINTON, W.E. de, 1899. On a collection of mammals transmitted to Mr. Sclater by Mr. Sharpe. *Proceedings of the Zoological society of London*, 1899: 771-773, 1 fig.
- WISSMANN, H. von, 1901. In den Wildnissen Afrikas und Asiens: Jagderlebnisse: viii, 182. Berlin, Paul Parey.
- WITKAMP, H., 1932a. Het voorkomen van eenige diersoorten in het landschap Koetai. *Tropische natuur*, 21(10): 169-177, 1 map.
- , 1932b. Wildreservaten in Koetai. *Verslag van de Nederlandsch Indische vereeniging tot natuurbescherming*, over de jaren 1929-1931: 84-86, fig. 11.
- WITKAMP, P.H., 1869. Amsterdam in schetsen, II: 237. Amsterdam, G.W. Tielkemeijer.
- WOLF, Johann, 1818. Abbildungen und Beschreibungen merkwürdiger Gegenstände, I: iv, 168, pls. 1-36. Nürnberg, Conrad Tyroff.
- WOOD, Horace Elmer II, 1949. Evolutionary rates and trends in rhinoceroses. Pp. 185-189 in: Glen L. Jepsen, Ernst Mayr & George G. Simpson (eds.), *Genetics, paleontology, and evolution*: xv, 474. Princeton university press.
- WOOD, H.S., 1930. Observations on Indian rhino and their shikar on foot. *Journal of the Darjeeling natural history society*, 4(3): 59-69.
- WOOD, John George, 1851. The illustrated natural history: Mammalia. London, Routledge, Warne and Routledge.
- WOODHOUSE, C.W., 1912. The game of the North Kavirondo district, Nyanza province. *Journal of the East Africa and Uganda natural history society*, 3(5): 28-36.
- , 1916. Game and war. *Journal of the East Africa and Uganda natural history society*, 5(10): 71-76, 1 map.
- WOOD-MASON, J., 1875. Living specimen of *Rhinoceros sondaicus* in Calcutta. *Proceedings of the Asiatic society of Bengal*, 1875: 229-230.
- WOODWARD, Arthur Smith, 1898. Outlines of vertebrate palaeontology, for students of

- zoology: xxiv, 470. Cambridge, University press.
- WORLD WILDLIFE FUND, 1967. Actie voor het behoud van de Javaanse neushoorn. *Panda-Nieuws* 3(6) in *Blijdorp-Geluiden*, Rotterdam, 15(2): i, 1 fig.
- , 1968. Patrouilleboot voor Ujung Kulon. *Panda-Nieuws*, 4(11/12): 8, 1 fig.
- , 1971a. Javan rhinos. *International zoo news*, 18(2): 45.
- , 1971b. World zoos asked not to take rhino from Nepal. *International zoo news*, 18(2): 59.
- , 1972. Javaanse neushoorns nemen toe. *Panda-Nieuws*, 8(4): 38.
- , 1973. Slachting onder de neushoorns in India. *Panda-Nieuws*, 9(3): 25.
- , 1979. WWF welcomes ban on rhino imports in Hong Kong. *International zoo news*, 26(3): 32.
- WORM, Olao, 1655. Museum Wormianum, seu historia rerum rariorum, tam naturalium, quam artificialium, tam domesticarum quam exoticarum, quae Hafniae Danorum in aedibus Authoris servantur: xii, 389, iii. Lugduni Batavorum, Iohannis Elsevirius.
- WOUDT, B.D. Van 'T, 1965. Conservation in the land of the Ghurka. *Conservation News, S.E. Asia*, 6: 14-16, 5 figs.
- WRAY, L., 1905. Rhinoceros trapping. *Journal of the Federated Malay States museums*, 1(2): 63-65.
- WROUGHTON, Robert Charles, 1907. On a collection of mammals made by Mr. S.A. Neave in Rhodesia, north of the Zambesi, with field notes by the collector. *Memoirs and proceedings of the Manchester literary & philosophical society*, 51(5): 1-39.
- , 1915. Bombay natural history society's Mammal survey of India, Burma and Ceylon: report no. 17. *Journal of the Bombay natural history society*, 23(4): 695-720.
- , 1921. Summary of the results from the Indian mammal survey of the Bombay natural history society, part VII. *Journal of the Bombay natural history society*, 27(2): 301-322.
- & Winifred M. DAVIDSON, 1918. Bombay natural history society's Mammal survey of India, Burma and Ceylon: report no. 29, Pegu. *Journal of the Bombay natural history society*, 25(3): 472-481.
- WUNDERLICH, Ludwig, 1892. Der Hornwechsel beim indischen Nashorn. *Zoologische Garten*, (A.F.) 33(12): 373-374.
- WURSTER, Doris H. & Kurt BENIRSCHKE, 1968. The chromosomes of the great Indian rhinoceros (*Rhinoceros unicornis* L.). *Experientia*, 24(5): 511, 1 fig.
- WYCHERLEY, P.R., 1969. Conservation in Malaysia: a manual on the conservation of Malaysia's renewable natural resources. *IUCN Publications*, (N.S.) Supplementary paper, 22: 1-207.
- WYKES, Alan, 1964. Snake man: the story of C.J.P. Ionides: 222. London, Four square books. (1st ed. 1960)
- YAMAMOTO, S., 1967. Notes on the breeding of black rhinoceroses, *Diceros bicornis*, at Kobe zoo. *International Zoo Yearbook*, 7: 163.
- YOUNG, E., 1965a. Lesions in the vicinity of the eye of the white rhinoceros, *Diceros simus*. *International Zoo Yearbook*, 5: 194-195.
- , 1965b. 'n Verslag oor die versameling van saad van 'n swart renosterbul (*Diceros bicornis*). *Journal of the South African veterinary medical association*, 36(3): 385-386, figs. 1-3.
- , 1966. Treatment of cutaneous granulomata in the black rhinoceros *Diceros bicornis*. *International Zoo Yearbook*, 6: 276-277.
- , 1967. Semen extraction by manipulative technique in the black rhinoceros, *Diceros bicornis*. *International Zoo Yearbook*, 7: 166-167.
- YULE, Henry & A.C. BURNELL, 1903. Hobson-Jobson: a glossary of colloquial Anglo-Indian words and phrases and of kindred terms, etymological, historical, geographical and discursive, new edition edited by William Crooks: xlviii, 1021. London, John Murray.
- ZAMMARANO, Vittorio Tedesco, 1924. Hic sunt leones: un anno de esplorazione e di caccia in Somalia: xi, 312. Roma, Anonima Libreria Italiana.
- , 1930. Fauna e caccia: le colonie Italiane di Diretto Dominico: 222. Roma, Ministero delle Colonie.

- , 1932. Impressione di caccia in Somalia Italiana, 3rd ed.: 247. Milano, Giacomo Angelli. (1st ed. 1929)
- ZELLER, F., 1963. Köln (1957). *Zoologische Garten*, (N.F.) 27(4/5): 265-268, figs. 1-3.
- ZEUNER, Friedrich, 1934. Die Beziehungen zwischen Schädelform und Lebensweise bei den rezenten und fossilen Nashörnern. *Berichte der naturforschenden Gesellschaft zu Freiburg i. Breisgau*, 34: 21-80, figs. 1-21.
- ZEUNER, F.E., 1952. The microlithic industry of Langhnaj, Gujarat. *Man*, 52: 129-131, pl. 1, figs. 1-2.
- ZIMMERMANN, Eberhard August Guilielmus, 1777. Specimen zoologiae geographicae, quadrupedum domicilia et migrationes sistens, dedit, tabulamque mundi zoographicam adjunxit: xxiv, 686. Lugduni Batavorum, Theodorus Haak.
- ZITTEL, Karl Alfred von, 1891. Palaeozoologie, IV: Vertebrata (Mammalia): xi, 799. München/Leipzig, R. Oldenburg.
- ZON, A.P.M. van der, 1977. Sumatran rhino in Kalimantan (Borneo). *Tiger Paper*, 4(2): 12, 1 fig.
- ZONDAG, J.L.P., 1931. Het voorkomen van enige diersoorten in Zuidoost-Australië van Borneo. *Tropische Natuur*, 20(12): 221-223, 1 map. (Reprinted in: *Verslag van de Nederlandsch Indische vereniging tot natuurbescherming, over de jaren 1929-1931*: 82-83, fig. 10.)
- ZONDERVAN, H., 1891. Die jüngste Expedition quer durch Sumatra. *Ausland*, 64: 532-534.
- ZUKOWSKY, Ludwig, 1922. Vorläufige Mitteilung über eine neue Art des Spitzschmuck-Nashorns aus Südwest-Afrika. *Archiv für Naturgeschichte*, Abt. A, 88(7): 162-163.
- , 1924. Beitrag zur Kenntnis der Säugetiere der nördlichen Teile Deutsch-Südwestafrikas unter besonderer Berücksichtigung des Grosswildes. *Archiv für Naturgeschichte*, Abt. A, 90(1): 29-164, figs. 1-12.
- , 1949. Eine neue Nashornrasse aus dem Schari-Tschadgebiet. *Arche Noah*, 1949(1): 16, 1 fig.
- , 1950. Grosssäuger, die Hagenbeck entdeckte. *Zoologische Garten*, (N.F.) 17(1/5): 211-221, figs. 1-7.
- , 1954-56. Kleine Hagenbeck-Erinnerungen. *Zoologische Garten*, (N.F.) 21: 9-24.
- , 1965. Die Systematik der Gattung *Diceros* Gray, 1821. *Zoologische Garten*, (N.F.) 30(1/2 and 3/4): 1-178, figs. 1-81.
- , 1966. Ursache und Bedeutung der schwärenden Wunden an den Körperseiten freilebender Spitzmaulnashörner. *Zoologische Garten*, (N.F.) 32(4): 163-173, figs. 1-3.
- ZUMPT, Fritz, 1962. The genus *Gyrostigma* Brauer (Diptera: Gasterophilidae). *Zeitschrift für Parasitenkunde*, 22: 245-260, figs. 1-12.
- , 1964. Parasites of the white and the black rhinoceroses. *Lammergeyer*, 3(1): 59-70, figs. 1-12.
- , 1965. Tierische Parasiten der Nashörner. *Natur und Museum*, 95(5): 191-206, figs. 1-14.
- ZWILLING, Ernst A., 1940. Unvergessenes Kamerun: zehn Jahre Wanderungen und Jagden 1928-1938: 384. Berlin, Paul Parey.

INDEX

- Absence of horn, 8.4.8
 Abyssinia, *see* Ethiopia
 Accb, 7.7.8, 8.7.10
 Activity pattern, 5.10.3, 6.10.2, 7.8.3, 8.8.2, 9.10.3
 Addo Bush N.P., 6.9.19
 Adelaide: museum, 8.11; zoo, 8.12.5
 A.E.F., *see* Central African Republic
 Aelian, 1.3.3, 1.4.5
 Africa: culture, 10; distribution 1.3.1, 3.5.2, 3.18; prices of rhino parts, 16.3.
africanus, 6.2.3
 Age, *see* Longevity
 Age, measure in teeth, 9.6.3
 Age classes, 5.4.11, 6.4.12, 7.4.11, 8.11, 9.4.10
 Agni, 14.8
 Agriculture, 13.3
 Akynodontes, 4.2.1
 Albany, museum, 6.15
 Aleppo, captivity, 3.17.2
 Alexandria, 1.5
 Algeria, prehistoric distribution, 5.9.17
 Altdorfer, 3.10.5
 Amblyomma, 6.12, 7.10, 8.10, 9.12
 Amsterdam: museum, 3.6, 5.15, 7.12, 8.11; zoo, 6.16.4, 7.13.3, 8.12.5, 9.15.6
 Anaemia, 7.11
 Anatomy, 5.5, 6.5, 7.5, 8.5, 9.5
 Angkor Vat, 8.7.7, 14.8, 14.9
 Angola, distribution, 5.9.4, 6.9.2
angolensis, 6.2.3
annamiticus, 8.2.4
Anoplocephala, 8.10, 9.12
 Anthrax, 5.13
 Antipoisonous virtue, *see* Poison detection
 Antwerp zoo, 5.16.3, 6.16.4, 7.13.3, 9.15.6
 Aphrodisiacum, 10.6, 13.10, 14.12
 Apocrine sweat gland, 5.5.2
 Apo Kayan, 7.7.4
 Appearance, 5.4.1, 6.4.1, 7.4.1, 8.4.1, 9.4.1, 1.2, 3.4, 13.5
 Armant, 11.2, 11.3
 Armerina, 1.7.2
 Art, *see* Iconography
 Artificial insemination, 6.11.3
 Asia: distribution, 1.3.2, 3.5.1; prices of rhino parts, 16.4
asiaticus, 9.2.2
 Assam, *see* India
 Associations, 5.10.4, 6.10.3, 7.8.18, 8.8.3, 9.10.4
arborensis, 6.2.3
 Atelodinae, 4.2.1.
Atelodus, 4.3.1
 Atjeh, *see* Aceh
 Atlanta zoo, 6.16.4
 Augsburg, museum, 3.6.
Babesia, 5.12, 6.12
 Babur, 9.9.3, 13.5
 Badak api, 7.4.2
 Bailey, 6.6.12, 7.13.3
 Banda, 9.9.6.2
 Bangkok: museum, 7.12; zoo, 6.16.4, 7.13.4, 8.12.5
 Bangladesh, distribution, 7.7.6, 8.7.6, 9.9.3
 Bantam, 8.7.8
 Barnard, 8.11
 Barnum, 6.16.2, 7.13.3, 9.15.3
 Basel zoo, 7.13.4, 7.14.3, 9.15.6
 Batavia, menagerie, 8.12.4
 Bathing, *see* Wallowing
 Battles, 13.3
 Bazin, G., 7.7.7, 7.14.2, 8.7.9
 Bechuanaland, 5.9.12
 Behaviour, *see* Ecology
 Behaviour, evolution, 4.5
 Bengal, *see* India, Bangladesh
bengalensis, 9.2.2
 Beni Hassan, 11.7
 Berlin: museum, 5.15, 6.15
 Berlin East, zoo, 6.16.4, 9.15.6
 Berlin West, zoo, 5.16.3, 6.16.4, 7.13.4, 9.15.6
 Bezoar stone, 14.3
 Bhutan, distribution, 7.7.3, 8.7.3, 9.9.2
 Bible, 2.3, 3.3.4
 Bicornes, 4.2.1
bicornis, 6.2.3

- Bihar, 9.9.3, 9.9.6.2
 Biomass, 5.10.17, 9.10.13
 Birchington, museum, 5.15
 Bird, symbiosis, 5.10.19, 6.10.18, 9.10.15
 Birth, 5.11.6, 6.11.4, 8.9, 9.11.3; in captivity, 5.16, 6.16, 9.15; size, *see* Size at birth.
 Black rhinoceros, *see* *Diceros bicornis*
 Blood: content, 5.7, 6.7; use, 10.5, 13.7, 14.14
blythii, 7.2.3
 Bogor: museum, 7.12, 8.11; zoo, 9.15.6
 Bombay: museum, 7.12, 8.11; zoo, 9.15.6
 Boras, zoo, 5.16.3
 Borneo: culture, 14.19; distribution, 7.7.4, 8.7.12.1; prehistoric distribution, 7.7.10
bornienseis, 7.2.3¹
 Borno, 6.9.16
 Borobudur, 14.8
 Boston Zoological Institute, 6.16.2
 Botswana, distribution, 5.9.5, 6.9.3
 Brain, 6.5.2, 7.5.2, 9.5.2
 Breslau, zoo, 6.16.4, 9.15.6
 Bristol, zoo, 6.16.4
 Brookes' Catalogue, 4.3.2
 Bruce's rhinoceros, 6.2.3
brucei, 6.2.3
 Brunei, distribution, 7.7.4
 Brussels, museum, 5.15, 7.12, 8.11
 Budapest, zoo, 7.13.4
burchellii, 5.2.3
 Burgkmair, 3.10.5
 Burma: culture, 14.19; distribution, 7.7.5, 8.7.4, 9.9.5
 Burundi, distribution, 6.9.17
 Bash type of *D. bicornis*, 6.2.2

 Caecum, 8.5.2
 Cairo, zoo, 9.15.6
 Calcutta, museums, 5.15, 6.15, 7.12, 8.11, 9.14; zoo, 7.13.4, 8.12.5, 9.15.5, 9.15.6
Calpe, 6.12
 Calving interval, 5.11.4, 6.11.9
 Cambaia, 3.5.2, 3.5.3
 Cambodia: culture, *see* Indo-China
 Cambodia, distribution, 3.5.1, 8.7.7, 8.7.13
 Cameos, Roman, 1.7.3
 Cameroon, distribution, 5.9.6, 6.9.4
 Campbell's rhinoceros, 5.2.3, 5.15
 Camper, Petrus: collection, 3.6, 3.19, 6.2.3; discovery of *R. sondaicus*, 8.2.3
camperi, 6.2.3
camperii, 8.2.4
camperis, 8.2.4
camptoceras, 5.2.1
canus, 5.2.3
 Cancer, 6.13, 9.13
 Cape of Good Hope, 3.5.4, 3.5.5, 3.6.19
capensis, 6.2.3
 Cape Province, 5.9.12
 Cape Town, museum, 3.6, 5.15, 6.15, 9.14
 Caprivi, 6.9.14
 Captivity, 5.16, 6.16, 7.13, 8.12, 9.15; in Cambodia, 14.5; in China, 15.5; in India, 13.3; in Near-East, 12.4; pre-1800 literature, 3.10-3.17; Rome, 1.5
 Capture, 3.9, 5.14
 Carditis, 9.13
 Celebes, *see* Sulawesi
 Census techniques, 6.10.1
 Central African Republic, distribution, 5.9.7, 6.9.5
 Ceratotheriinae, 4.2.1
Ceratotherium, 4.3.1, 7.2.3
 Ceratotheriinae, 4.2.1, 4.2.2
Ceratotherium, 4.3.1, 4.3.4, 4.6.1
Ceratotherium simum, 5
 Chad, distribution, 5.9.8, 6.9.6
 Charm: India, 13.7, 13.8; S.E. Asia, 14.10
 Chester, zoo, 6.16.4
 Chicago, museum, 7.12; zoo, 5.16.3, 6.16.4, 9.15.6
 Children's books, 17.12
 Chi-lin, 15.2
 China: culture, 15; distribution, 3.5.2, 3.5.3, 8.7.5, 9.9.5
 Chittagong, 8.7.6
 Chittepour, menagerie, 8.12.4
 Chitwan N.P., 9.9.4
chobiensis, 6.2.3
 Christian V, 3.6
 Chromosomes, 5.8, 6.8, 9.8
 Cincinnati, zoo, 6.16.4
 Circus: Alexandria, 1.5; Rome, 1.5; U.S.A., 6.16.2, 7.13.3, 9.15.3
 Cirrhosis, 7.11
 Clara, 3.14
 Classification, *see* Taxonomy
 Classification: before 1800, 3.3; in China, 15.4; into groups, 4.4
 Cochinchina, *see* Indo-China
Coelodonta, 4.3.1, 4.3.4
 Coins, Roman, 1.7.4, 3.19
 Coltus aversus, 3.7.1
Colobognathus, 4.3.1
 Colobotemnodontes, 4.2.1
 Cologne, zoo, 5.16.3, 6.16.4, 7.13.4, 9.15.6
 Colombo, zoo, 6.16.4
 Colour, 5.4.2, 6.4.2, 7.4.2, 8.4.2, 9.4.2
 Communication, 5.10.23, 6.10.21, 9.10.18
 Competition, 6.10.18
 Congo-Brazzaville, distribution, 6.9.7
 Congo-Kinshasa, *see* Zaire
 Constipation, 5.13

- Cooch Behar, 9.9.3
 Copenhagen: museum, 3.6, 7.12; zoo, 5.16.3, 7.13.4, 7.14.3
 Coprophagy, 5.10.8
 Copulation, 5.11.5, 6.11.6, 9.11.4; classical authors, 1.4.1; before 1800, 3.7.1
 Corns, 6.13
cottoni, 5.2.3
 Courtship, 5.11.5, 6.11.6, 9.11.4
 Cracow, museum, 5.15, 6.15
 Crocodile, relation to rhino, 6.10.18
crosti, 7.2.3
 Ctesias, 1.3.3
cuscutatus, 6.2.3
 Culture: Africa, 10; China, 15; Egypt, 11; Europe, 3, 17; Middle East, 12; Near East, 12; India, 13; Nepal, 13; Rome, 1; S.E. Asia, 14
 Cups, 10.6, 13.9, 15.6
cyclochilus, 4.3.1
dactylochilus, 4.3.1
 Dagger-hilts, 10.6, 12.6
 Daily activity, *see* Activity pattern
 Danzig, museum, 3.6
 Darmstadt, museum, 3.6
 Defecation, 5.10.5, 6.10.4, 7.8.4, 8.8.4, 9.10.5
 Delft, museum, 3.6, 8.11
 Delhi: captivity, 3.17.2, 13.3; zoo, 9.15.6
 Dentition, 5.6.3, 6.6.3, 7.6.3, 8.6.3, 9.6.3; evolution, 4.5
 Denver, zoo, 6.16.4
Dermacator, 6.12
 Detroit, zoo, 6.16.4
 Deuteronomy, 3.3.4
 Dicerinae, 4.2.1
 Dicerorhininae, 4.2.1
 Dicerorhinini, 4.2.1
Dicerorhinus, 4.3.1, 4.3.2, 4.6.2, 7.2.2
Dicerorhinus sumatrensis, 7
Diceros, 4.3.1, 4.3.4, 4.6.1, 6.2.2
Diceros bicornis, 6
 Dicerotes, 4.2.1
 Dicerotinae, 4.2.1
 Dicerotini, 4.2.1
Didermocerus, 4.3.1, 4.3.2, 7.2.2
 Diet, *see* Food
 Dimorphism, sexual, *see* Sexual dimorphism
 Diseases, *see* Veterinary studies
 Disposition, *see* Temperament
 Dissection, *see* Anatomy
 Distribution, 5.9, 6.9, 7.7, 8.7, 9.9; classical authors, 1.3.1, 1.3.2; before 1800, 3.5.1, 3.5.2
 Dresden, zoo, 6.16.4, 9.15.6
 Drinking, *see* Food
 Drugs, 5.14, 6.14
 Dublin: museum, 7.12, 9.14; zoo, 6.16.4, 9.15.6
 Dürer, Albrecht, 3.10.3, 3.10.4
 Dung, as medicine, 13.8
 Dung heaps, 5.10.6, 6.10.5, 7.8.5, 8.8.5, 9.10.6
 Dung scattering, 5.10.7, 6.10.6; as folk tale, 10.2
 Durban, museum, 5.15
 Dutch rhinoceros, 3.14
 Dvur Kralove, zoo, 5.16.3, 6.16.4
 Ear conch, 6.4.3
 Eating of rhino parts, 3.7.2, 10.1, 13.2, 14.4
 Ecology, 5.10, 6.10, 7.8, 8.8, 9.10
 Edmonds, 9.15.4
 Egypt: culture, 11; prehistoric distribution, 5.9.19
 Ehlbeck circus, 7.13.2
 Ekaçringa legend, 13.4.2
 Eland, relation with rhino, 6.10.18
 Elephant, enmity with rhino, 1.4.2, 1.4.5, 3.7.3, 3.19, 13.3, 13.4.1; relation with rhino, 5.10.19, 6.10.18, 7.8.14, 9.10.15
 Emblem, Alessandro, de Medici, 3.10.4
 Embryo, *see* Foetus
 Endau-Rompin, 7.7.7
 Endocarditis, 6.13
 Enemies, 5.10.19, 6.10.18, 7.8.14, 8.8.12, 9.10.15
 Enteritis, 5.13
Entodinium, 9.12
 Epipharynx, 5.5.2, 6.5.2, 7.5.2, 9.5.2
 Ethiopia, distribution, 1.3.1, 3.5.4, 3.5.5, 5.9.18, 6.9.8; prehistoric distribution, 5.9.19, 6.9.26
 Ethology, *see* Ecology
 Etosha N.P., 6.9.14
 Etymology, 12.5
eugenei, 7.7.10
Eurhinoceros, 4.3.1
 Evolution, 4.5, 9.10.1
 Exeter Change, 9.15.4
 Exhibits in zoos, 4.7
 Eye, 6.5.2, 6.13, 7.5.2, 9.5.2
 Eye lashes, 5.4.5, 6.4.6, 7.4.5, 8.4.5, 9.4.4
 Fake horn, 14.6
 Fascioliasis, 9.13
 Feeding methods, *see* Food
 Fights, between rhinos, 5.10.23, 6.10.21, 8.8.15, 9.10.18
 Filarid, 6.13.3
 Fire: antipathy of, 10.2; eating of, 14.7

- Flies, 6.12
 Florence, museum, 3.6
floweri, 8.2.4
 Foetus, 6.4.4, 8.4.3, 8.4.10
 Folk tales: Africa, 10.2; Borneo, 14.7; Burma, 14.7; India, 13.4; Indo-China, 14.7
 Food, 3.7.4, 5.10.8, 6.10.7, 7.8.6, 8.8.6, 9.10.7
 Fossil record, 5.9.19, 6.9.26, 7.7.10, 8.7.13, 9.9.6
 Footgland, 7.5.2, 8.5.2, 9.5.2
 Footprints, 5.4.4, 6.4.5, 7.4.3, 7.4.4, 8.4.4, 9.4.3
 Forefathers, Nepal, 13.7
 Forepaugh, 7.13.3
 Forest rhinoceros, 6.2.2
fossilis, 9.9.6.2
 Frankfurt am Main, museum; 6.15, 9.14; zoo, 6.16.4, 9.15.6
 Fresno, zoo, 6.16.4
 Friendship, with tiger, 3.7.5
frontalis, 8.2.4
 Pylogeny, 4.5
- Gait, 5.10.9
 Gall bladder, 8.5.2
 Garamba N.P., 5.9.15
Gastrophilus, 6.12, 9.12
 Gauhati, zoo, 9.15.6
 Gedeh, 8.7.8
 Gelsenkirchen, zoo, 9.15.6
 Generatio spontanea, 3.7.1
 Genetics, 5.8, 6.8, 9.8
 Gestation, 5.11.6, 6.11.7, 7.9.2, 8.9, 9.11.5
 Gona-re-Zhou G.R., 6.9.25
 Gordon, R.J., 3.18, 6.2.3
 Gordon's rhinoceros, 6.2.3
gordonii, 6.2.3
 Gorongosa N.P., 6.9.13
 Great Indian rhinoceros, *see* Rhinoceros unicornis
 Greece, ancient, 1
 Grenoble, museum, 5.15
 Griffith, E., 5.2.3
 Groningen, museum, 3.6, 6.15, 8.11
 Groups, *see* Associations
 Growth, 5.4.9, 6.4.10, 7.4.9, 9.4.8
 Gujarat, distribution, 9.2.1, 9.9.6.2
guthi, 8.7.13
Gyrostigma, 5.12, 6.12, 7.10
- Haarlem, museum, 6.15
 Habeter, 10.3
 Habitat, 5.10.10, 6.10.8, 7.8.7, 8.8.7, 9.10.8
 Hagenbeck: caravan, 6.16.3; zoo, 6.16.4, 9.15.6
 Hainan island, 8.7.5
- Hair, 5.4.5, 6.4.6, 7.4.5, 8.4.5, 9.4.4
 Halle, museum, 8.11
 Hamburg: museum, 5.15, 9.14; zoo, 6.16.4, 7.13.4, 9.15.6
 Hand-rearing, 5.11.7, 6.11.8, 9.11.6
 Hannover, zoo, 5.16.3, 6.16.4
 Harappa, 9.9.6.2
harrissoni, 7.2.3
 Heart, 6.5.2, 7.5.2, 9.5.2
 Heart rate, 5.7
 Heart, use in S.E. Asia, 14.14
 Hippopotamus, relation with rhino, 6.10.18
 Histology, *see* Anatomy
 Histology, hair, 5.4.5, 6.4.6
 Hluhluwe G.R., 5.9.12, 5.9.19
holmwoodi, 6.2.3
 Home range, 5.10.11, 6.10.9, 7.8.8, 9.10.9
 Hoofs, *see* Footprints
 Hopefield, 5.9.19, 5.9.26
 Hor-Aha, 11.5
 Horn, 5.4.6, 5.4.12, 6.4.7, 7.4.6, 8.4.6, 9.4.6; absence in female, 8.4.8; fake, 14.6; rubbing, 5.10.12, 6.10.10, 7.8.9; sharpening, 1.4.3, 1.4.5, 3.7.6; size, 5.4.6, 6.4.8, 7.4.7, 8.4.7, 9.4.7; structure, 4.6.3; taxonomic character, 4.2.2, 6.2.2; use by rhino, 5.10.12, 5.10.28, 6.10.10; use in Africa, 10.6; use in China, 15.6, 15.7; use in India, 13.8, 13.9; use in S.E. Asia, 14.14; use in Yemen, 12.6; virtue, 3.8
 Huguet, 8.12.3
hundsheimenensis, 7.6.1
 Hunting: Africa, 5.9, 6.9, 10.4; Asia, 7.7, 8.7, 9.9; India, 13.5
Hyalomma, 6.12, 7.10
 Hyena, relation with rhino, 6.10.18
 Hypophysis, 6.5.2, 9.5.2
- Iconography: China, 15.3; Europe, 3.10.3, 3.10.4, 3.10.5, 3.11.2, 3.11.3, 3.12.2, 3.13.2, 3.13.3, 3.14.2, 3.14.3, 3.18; India, 13.6; Rome, 1.7
 Immobilisation, *see* Translocation
 Impenetrable skin, 3.4.4
 Incisor, value, 14.16
 India: culture, 13; distribution, 1.3.2, 3.5.1, 3.5.2, 3.5.3, 7.7.6, 8.7.6, 9.9.3; prehistoric distribution, 9.9.6.2
 Indian rhinoceros, *see* Rhinoceros unicornis
indicus, 9.2.2
 Individual recognition, 5.4.12, 6.4.13, 9.4.11
 Indo-China: culture, 14.17; distribution, 3.5.2, 3.5.3, 8.7.7, 9.9.5; prehistoric distribution, 8.7.13
 Indonesia, *see* Borneo, Java, Sumatra
inermis, 8.2.4

- Insects in folds, 3.7.7
 Intestines, 7.5.2, 8.5.2, 9.5.2
 Ipswich, museum, 9.14
 Ispahan, captivity, 3.17.2
 Ivory Coast, distribution, 6.9.9
- Jacksonville, zoo, 6.16.4
 Jäger, 17.1
 Jahanabad, captivity, 3.17.2
 Jaldapara N.P., 9.9.3
 Jamrach, William, 8.12.5, 9.14, 9.15.6
jamrachi, 9.2.2
 Java: captivity, 3.17.2, 8.12.4; culture, 14.17;
 distribution, 3.5.2, 3.5.3, 8.7.8; prehistoric
 distribution, 8.7.13, 9.9.6.3
 Javan rhinoceros, *see* *Rhinoceros sondaicus*
javanicus, 8.2.4
javanus, 8.2.4
 Jehangir, 9.9.3, 13.5
 Job, 2.3, 3.3.4
 Johannesburg, museum, 5.15, 6.15
 joint-less rhino, 15.2
 Justin, 2.1
- Kabalega Falls N.P., 5.9.14
 Kaffrarian museum, 6.15
 Kagera, 5.9.18
 Kahilu G.R., 7.7.5, 8.7.4
 Kalimantan, *see* Borneo
 Kampuchea, *see* Cambodia
 Kansas City, zoo, 6.16.4
 Kaziranga N.P., 9.9.3
 Kaoko, 6.9.14
 Karagwe, 5.9.18
 Kariba, 6.9.25
 karkaddan, 12.2
 Karyotype, 5.8, 6.9, 9.8
 Kashmir, 9.9.3
 Kathmandu: temple, 13.6; zoo, 9.15.6
ketloa, 4.3.1
ketloa, 6.2.3
kendengindicus, 9.9.6.3
 Kenya, distribution, 5.9.9, 6.9.10
 Kerma, 11.4
ketloa, 6.2.3
khaliia, 6.12
kiabooba, 5.2.3
 Kidney, 5.5.2, 6.5.2, 7.5.2, 9.5.2
Kihuma, 6.12, 8.10
 Kina plant, 8.8.6
 Kircher museum, 3.6
 Knie circus, 5.16.2
 Kobe, zoo, 6.16.4
 Königsberg, museum, 9.14
 Kruger N.P., 5.9.12, 6.9.19
 Krugersdorp N.P., 5.16.2
- Kuala Lumpur: museum, 7.14.4, 8.11; zoo,
 6.16.4, 7.13.2
 Kuching, museum, 7.12
kuhamane, 6.2.3
 Kutai, 7.7.4
 Kyle Dam G.R., 5.9.17
- Labicum, 1.7.5
 Lado district, 5.9.13
ladocensis, 6.2.3
 Langhnaj, 9.9.6.2
 Laos, distribution, 8.7.7.
 Lapsus: genus names, 4.3.3; species names,
 5.2.4, 6.2.4, 7.2.4, 8.2.5, 9.2.3
lasiotis, 7.2.3
 Learning, 5.10.13, 6.10.11
 Leeds, museum, 6.15
 Leiden, museum, 3.6, 5.15, 6.15, 7.12, 8.11,
 9.14
 Lehmann, 3.6
 Leipzig, zoo, 6.16.4, 7.13.4
 Length, *see* Size
 Leopard, relation with rhino, 6.10.18
 Leuser N.P., 7.7.8, 8.7.10
 Levaillant, F., 3.18
 Liberia, distribution, 6.9.11
 Licking, 3.7.8, 6.10.12
 Linnacus, 6.2.3, 9.2.2
 Lion, relation with rhino, 5.10.19, 6.10.18
 Lisbon: captivity in 1515, 3.10; in 1579, 3.11;
 zoo, 5.16, 6.16.4
 Liverpool, museum, 5.15, 9.14
 Liverpool rhinoceros, 8.12.3, 9.15.4
 Locomotion, 5.10.9, 8.8.9
 London: captivity in 1684, 3.12; in 1739,
 3.13; Docks, 7.13.4; museums, 3.6, 5.15,
 6.15, 7.12, 8.11, 9.14; Pidecock, 3.16; zoo,
 6.16, 7.13.4, 7.14.3, 8.12.5, 9.15.6
 Longevity, 3.7.9, 5.10.14, 6.10.13, 7.8.10, 8.8.8,
 9.10.10
longipes, 6.2.3
 Loskop Dam G.R., 5.9.12, 5.16.2
 Lucknow: menagerie, 13.3; zoo, 9.15.6
 Luderitz, museum, 6.15
 Lymph, 5.5.2, 6.5.2, 7.5.2, 8.5.2, 9.5.2
 Lyons, museum, 8.11
Lyperosia, 5.12
- Madhya Pradesh, 9.9.6.2
 Madras: distribution, 9.9.6.2; zoo, 7.13.4,
 8.12.5
 Madrid: captivity in 1579, 3.11; museum,
 5.15, 7.12
 Mahanadi river, 8.7.6
major, 6.2.3
 Malati G.R., 5.9.12

- Malawi, distribution, 5.9.10, 6.9.12
 Malaya: culture, 14.17; distribution, 3.5.2, 3.5.3, 7.7.7, 8.7.9, 9.9.5; prehistoric distribution, 8.7.13
malayanus, 7.2.3
 Malaysia, see Borneo, Malaya
 Mallorca, zoo, 5.16.3
 Manas G.R., 9.9.3
 Manchester: museum, 9.14; zoo, 9.15.6
 Mannheim, captivity, 3.17.2, 3.19
 Marseilles: museum, 5.15; zoo, 8.12.5
 Martial, 3.3.2
 Mashonaland, 5.9.17, 6.9.25
 Matabeleland, 5.9.17, 6.9.25
 Mating behaviour, see Copulation
 Matopos N.P., 5.9.17
 Maturity, see Sexual maturity
 Mead, R., 3.6
 Measurements, see Size
 Meat: eaten by men, 3.7.2, 10.1, 13.2; satisfaction tomanes, 13.7
 Mecca, captivity, 3.17.2, 9.15.5, 12.4
 Medici, Alessandro, 3.10.4
 Medicine, parts used as, 3.8, 10.5, 10.6, 12.6, 13.8, 14.3, 14.13, 14.14, 15.7
 Meissen, porcelain, 3.10.4
 Memory, 5.10.13, 6.10.11
 Memphis, zoo, 5.16.3, 6.16.4
 Men, relation with rhino, 5.10.18, 6.10.17, 7.8.13, 8.8.11, 9.10.14
 Merissa, 12.3
 Meru N.P., 5.9.9
 Methods of eating, see Food
 Miami, zoo, 9.15.6
michaeli, 6.2.3
 Micheli, J.G., 3.6
 Middle East, culture, 12
 Milano: museum, 6.15; zoo, 9.15.6
 Milk composition, 5.11.9, 6.11.10, 8.9, 9.11.8
 Milt, 9.5.2
 Milwaukee, zoo, 5.16.3
 Mineral requirements, see Salt lick
minor, 6.2.3
 Mirzapur, 13.6
 Mkuzi N.P., 5.9.12
 Moat, 8.12.2
 Mohenjo Daro, 9.9.6.2, 13.6
 Monoceros, 2.2, 2.3
Monoceros, 4.3.1
 Montgomery circus, 8.12.3
 Morphology, 3.4, 5.4, 5.5, 5.6, 6.4, 6.5, 6.6, 7.4, 7.5, 7.6, 8.4, 8.5, 8.6, 9.4, 9.5, 9.6; differences between genera, 4.6
 Mortality, see Population structure
 Moscardi, museum, 3.6
 Moscow: museum, 9.14; zoo, 6.16.4, 9.15.6
 Mother's behaviour, 5.11.10, 6.11.11, 9.11.9
 Movable horn, 1.4.5
 Movements, 5.10.15, 6.10.14, 7.8.11, 8.8.9, 9.10.11
 Mozambique, distribution, 5.9.11, 6.9.13
 Müller, 17.1
 Munich, museum, 7.12
 Munster, zoo, 5.16.3
 Murchison Falls N.P., 5.9.14
 Musculature, 5.5.2, 6.5.2, 7.5.2, 9.5.2
 Museum specimens, 3.6, 5.15, 6.15, 7.12, 8.11, 9.14
 Muslim culture, 12
 Mysore: museum, 9.14; zoo, 6.16.4, 9.15.6
 Nagas, 13.10
 Nairobi N.P., 6.9.10
namadicus, 9.9.6.2
 Names, 2.1, 3.2, 5.3, 6.3, 7.3, 8.3, 9.3
 Namibia, distribution, 5.9.4, 6.9.14
 Naples, zoo, 6.16.4
 Narbada, 9.9.6.2
nasalis, 8.2.4
 Nasicornia, 4.2.1
 Natal, distribution, 5.9.12, 6.9.19
 Ndumu G.R., 5.9.12, 6.9.19
 Near East, culture, 12
 Nematodes, 6.12
 Nepal: culture, 13; distribution, 9.9.4
 Nephritis, 7.11
 New England Zoological Exhibition, 9.15.3
 New Guinea, distribution, 8.7.12.2
 New York: museum, 5.15, 7.12, 7.14.4, 8.11, 9.14; zoo, 5.16.3, 6.16.4, 9.15.6
 Ngami, 6.9.3
 Ngorongoro, 6.9.21
 Niah, 7.7.10, 14.9, 14.16
niger, 6.2.3, 7.2.3
 Niger, distribution, 6.9.15
 Nigeria, distribution, 6.9.16
 Nimrud, 12.3
 Nomadism, see Movements
 Nomenclature, 5.2, 6.2, 7.2, 8.2, 9.2
 North Rhodesia, see Zambia
 Novacek and Richter, 6.16.3
 Nuchal hump, 5.4.7
nyasae, 6.2.3
 Nyasaland, see Malawi
occidentalis, 6.2.3
 Oestrous, 5.11.5, 6.11.6, 8.9
 Ogaden, 6.9.8
 Oklahoma City, zoo, 5.16.3, 6.16.4
 Olduvai Gorge, 5.9.19, 6.9.21
 One-horned rhino in Africa, 6.2.6
Opiceros, 4.3.1

- Orissa, captivity, 8.12.4
 Omaha, zoo, 6.16.4, 7.13.4
 Osteology, 5.6, 6.6, 7.6, 8.6, 9.6
 Ostrich, relation with rhino, 6.10.18
oswelli, 5.2.3
 Oubangui, 5.9.7, 6.9.5
 Oudh, menagerie, 8.12.4
 Owen, Richard, 9.5.1
 Oxford, museum, 6.15
Oxyuris, 6.12

 Pahang, museum, 7.12, 7.14.4
 Pakistan, prehistoric distribution, 9.9.6.2
 Palang, 14.12
 Palestrina, 1.7.6
 Pallenberg, 17.1
palestris, 6.2.3
 Parasites, 3.7.7, 5.12, 6.12, 7.10, 8.10, 9.12
 Parathyroid, 5.5.2, 6.5.2, 7.5.2, 9.5.2
 Paris: museum, 3.6, 5.15, 6.15, 7.12, 8.11;
 zoo, 6.16.4, 9.15.6
Parabronema, 6.12
 Paterson, James, 3.18.1, 3.18.2
 Path, 5.10.15, 6.10.14, 7.8.11, 8.8.9, 9.10.11
 Pedal gland, see Foot gland
 Peking, zoo, 6.16.4
 Penis, 5.5.2, 6.5.2, 7.5.2, 9.5.2
 Perak, 7.7.7, 8.7.9
 Perak, museum, 7.12, 8.11
 Perth, zoo, 7.13.4
 Perugia, 1.7.7
 Petroglyph Mirzapur, 13.6
 Philadelphia: museum, 7.12, 9.14; zoo,
 5.16.3, 7.13.4, 9.15.6
 Phoenix, zoo, 5.16.3
 Photographs: *D. sumatrensis*, 7.14; *R.*
sondaicus, 8.13
 Physiologist, 2.4
 Physiology, 5.7, 6.6, 9.7
 Pidgeon, 3.16
 Pietermaritzburg, museum, 5.15
 Pittsburgh, museum, 5.15, 6.16.4
 Piyadasi, 13.2, 13.7
 Placenta, 6.5.2, 9.5.2
Plagiotaenia, 8.10
 Plants eaten, see Food
Platyceros, 6.2.1
platyceros, 6.2.1
 Platyhelminthes, 5.12
 Play, 5.10.16, 6.10.15, 9.10.12
 Ploughing with horn, 3.7.10
 Pneumonia, 6.13
 Poison detection, 1.3.3, 3.8, 10.6, 13.10,
 14.11, 15.7
 Pompei, 3.10.4
 Popular works, 4.1
 Population structure, 5.10.17, 6.10.16,
 7.8.12, 8.8.10, 9.10.13
porrhoceros, 6.2.1
 Port Elisabeth, museum, 5.15
 Portland, zoo, 9.15.6
 Postcava, 5.5.2, 6.5.2
 Postcranial skeleton, 5.6.4, 6.6.4, 7.6.4,
 8.6.4, 9.6.4
 Pox, 5.13, 6.13
 Praeneste, 1.7.6
 Preanger, 8.7.8
 Precedence at waterhole, 3.7.11
 Predation, see Enemies
 Prehistoric distribution, 5.9.19, 6.9.26,
 7.7.10, 8.7.13, 9.9.6
 Pretoria, zoo, 5.16.3, 6.16.4
 Prices of rhino parts, 16.3, 16.4
 Prolapse, 6.13, 9.13
prostheceros, 5.2.1
 Pulse rate, 5.7
 Punjab, 9.9.3, 9.9.6.2
punyana, 6.2.3

 Queen Elisabeth N.P., 5.9.14
Quilimia, 6.12

 Rabelais, 3.10.4
 Rachitis, 6.13
 Racing, 13.3
 Radio transmitter, 5.10.2, 6.10.1
 Rajasthan, 9.9.6.2
 Rajmahal hills, 8.7.6, 9.9.3
 Range, see Home range
 Rangoon, zoo, 5.16.3, 7.13.4, 7.14.3, 9.15.6
 Rapti valley, 9.9.4
 Raymond & Waring, 9.15.3
 Re'em, 3.3.4
 Relation: African rhinos, 5.10.19, 6.10.18;
 Asian rhinos, 7.8.14, 8.8.12
rendilis, 6.2.3
 Reproduction, 5.11, 6.11, 7.9, 8.9, 9.11
 Reproductive organs, 6.5.2, 7.5.2, 8.5.2,
 9.5.2
 Resting, 7.8.15
 Restraint, see Translocation
Rhinaster, 4.3.1
Rhinoceros, 4.3.1, 4.6.2
Rhinoceros sondaicus, 8
Rhinoceros unicornis, 9
 Rhinocerotidae (and variations of name),
 4.2.1
 Rhodesia, see Zambia, Zimbabwe
 Rice, Dan, 9.15.3
 Ridinger, J.E., 3.18.2
 Ringling, 6.16.2, 7.13.3, 9.15.3
 Rio de Janeiro, zoo, 6.16.4

- Ritzenhofen, 17.1
 Rochelle, museum, 7.12
 Rock drawings, 10.3
 Rome: classical, 1; museums, 3.6, 3.10.4;
 zoo, 6.16.4
 Rotterdam, zoo, 5.16.3, 6.16.4
rowumae, 6.2.3
 Royal Society, 3.6
 Rubbing of horn, 5.11.7, 6.10.10
 Rudolf II, 3.6
 Rumination, 3.7.4
 Rwanda, distribution, 6.9.17

 Saanane island, zoo, 6.16.4
 Sabah, *see* Borneo
 Sabre-hilts, 3.8, 10.6, 14.5
 Sacred animal: India, 13.7; S.E. Asia, 14.9
 Saffron Walden, museum, 5.15
 Salivary gland, 5.5.2, 6.5.2, 9.5.2
 Salmanassar II, obelisk, 1.7.8
 Salt lick, 5.10.20, 6.10.19, 7.8.16, 8.8.13,
 9.10.16
 San Antonio, zoo, 5.16.3
 San Diego, zoo, 5.16.3, 6.16.4, 9.15.6
 San Francisco, zoo, 5.16.3, 6.16.4
 Saqqara, 11.5
 Sarawak, *see* Borneo
 Sarawak Museum, 7.12
 Saugor island, 8.7.6
 Schulz, C., 6.16.3
 Schumacher, Johannes, 3.18
 Schwe-U-Daung G.R., 7.7.5, 8.7.4
 Scorpion-bite, cure, 14.13
 Scythia, 1.3.1
 Seasonality of births, *see* Mating season
 Selangor, 8.7.9; museum, 8.11
 Senses, 3.7.12, 5.10.21, 6.10.20, 7.8.17,
 8.8.14, 9.10.17
 Serengeti N.P., 6.9.21
 Sex ratio, *see* Population structure
 Sexual dimorphism, 3.3.5, 5.4.13, 6.4.14,
 7.4.12, 8.4.8, 8.4.12, 9.4.12
 Sexual maturity, 5.11.2, 6.11.2, 9.11.2
 Shaftesbury, 3.17.1
 Shanghai, museum, 8.11
 Shedding of horn, 9.4.5
 Shields, 10.7, 13.9, 14.15, 15.7
 Siam, *see* Thailand
 Sikkim, 8.7.6, 9.9.3
simplissimus, 8.7.13
sinus, 5.2.3
sinensis, 7.2.3, 9.2.2
 Singapore: Botanic gardens, 7.13.4;
 museum, 7.12
shivasondaticus, 8.7.13
 Size: at birth, 5.4.9, 6.4.10, 7.4.9, 9.4.8; body,
 5.4.8, 6.4.9, 7.4.8, 8.4.9, 9.4.7; dentition,
 5.6.3, 6.6.3, 7.6.3, 8.6.3, 9.6.3; footprints,
 7.4.4, 8.4.4; horn, 5.4.6, 6.4.8, 7.4.7, 8.4.7,
 9.4.6; skull, 5.6.2, 6.6.2, 7.6.2, 8.6.2, 9.6.2
 Skeleton, *see* Postcranial skeleton
 Skeleton, evolution, 4.5
 Skin, 5.4.10, 5.5.2, 6.4.11, 6.5.2, 7.4.10,
 8.4.10, 9.4.9; eating, 14.4; impenetrability,
 3.5.4; use in Africa, 10.7; use in China,
 15.7; use in India, 13.9; use in S.E.
 Asia, 14.14
 Skull, 5.6.1, 5.6.2, 6.6.1, 6.6.2, 7.6.1, 7.6.2,
 8.6.1, 8.6.2, 9.6.1, 9.6.2
 Skull, evolution, 4.5
 Slamet, 8.7.8
 Sleep, 5.10.22
 Slim river, picture, 7.7.7, 8.7.9
 Snake-bite, cure, 14.13
 Social behaviour, 5.10.23, 6.10.21, 7.8.18,
 8.8.15, 9.10.18
 Society of Apothecaries, 3.10.4
 Somalia, distribution, 6.9.18
somalensis, 6.2.3
 Somaliland, distribution, 5.9.18, 6.9.18
sondaicus, 8.2.4
 Sores, 6.13.3
 Sounds, *see* Voice
 South Africa: distribution, 5.9.3, 5.9.12,
 6.9.19; prehistoric distribution, 5.9.19
 South Rhodesia, *see* Zimbabwe
 South-East Asia, culture, 14
 South West Africa, *see* Namibia
 Speed, 5.10.24, 6.10.22
 Square-lipped rhino, *see* *Ceratotherium*
simum
 Sri Lanka, prehistoric distribution, 8.7.13
 Status, 5.9, 6.9, 7.7, 8.7, 9.9
 Stela C, 14, 11.6
stenocephalus, 9.2.2
 Stephanofilaria, 6.12
 St. Louis, zoo, 9.15.6
 Stockholm, museum, 5.15
 Stomach, 6.5.2, 8.5.2, 9.5.2
 Stone-drum, 15.3
 St. Petersburg, zoo, 9.15.6
 Strasbourg, museum, 8.11
Strongylus, 6.12
 Structure of horn, 4.6.3
 Stubbs, George, 3.16
 Studbook, 5.16.1, 6.16.1, 9.15.1
 Stuttgart: museum, 5.15, 9.14; zoo, 9.15.6
 Sudan, distribution, 5.9.13, 6.9.20
 Sulawesi, distribution, 8.7.12.3
 Sumatra: culture, 14.17; distribution, 3.5.2,
 3.5.3, 7.7.8, 8.7.10; prehistoric
 distribution, 7.7.10, 8.7.13

- Sumatran rhinoceros, *see* *Dicerorhinus sumatrensis*
- sumatranus*, 7.2.3
- sumatrensis*, 7.2.3
- Sumba islands, distribution, 8.7.12.4
- Sunderbans, 8.7.6
- Surakarta, menagerie, 8.12.4
- Swakopmund, museum, 6.15
- Swammerdam, Jan, 3.6
- Sweat glands, 5.5.2, 6.5.2
- Swimming, 6.10.25, 7.8.19, 8.8.16
- Sword hilts, 10.6, 14.15
- Sydney, zoo, 6.16.4
- Symbiosis, 5.10.19, 6.10.18, 9.10.15
- Synonyms: family names, 4.2.1, 4.2.2; genus names, 4.3.1; species names, 5.2.5, 6.2.5, 7.2.5, 8.2.6, 9.2.4
- Systematics *see* Taxonomy
- Tabanus*, 5.12, 8.10
- Taenia, 6.12, 9.12
- Talmud, 3.3.4
- Taman Negara, 7.7.7, 8.7.9
- Taming, 3.9, 13.3
- Tanganyika, *see* Tanzania
- Tanzania: distribution, 6.9.21; prehistoric distribution, 5.9.19
- Tasikmalaya, 8.7.8
- Taxonomy, 5.2, 6.2, 7.2, 8.2, 9.2
- Teeth, *see* Dentition
- Teeth, value in S.E. Asia, 14.14, 14.16
- Teil Asmar, 12.3, 13.6
- Temperament, 3.7.13
- Temperature, 5.7, 6.7, 9.7
- Temporo-pterygoid ligament, 5.5.2, 6.5.2, 9.5.2
- Tenasserim, 7.7.5, 8.7.4, 9.9.5
- Territory, 5.10.25, 6.10.23, 7.8.20, 8.8.17, 9.10.19
- Tertullian, 2.1, 2.2
- Tervuren, museum, 5.15
- Tesserae, 1.7.9
- Thailand: captivity, 3.17.2; culture, 14.17; distribution, 3.5.2, 3.5.3, 7.7.9, 8.7.11, 9.9.5; prehistoric distribution, 8.7.13
- Theileria*, 6.12
- Thermenmuseum, 3.10.4
- Thermoregulation, 5.7
- Thoiry, zoo, 5.16.3
- Thutmosis, 11.3
- Thymus, 6.5.2, 9.5.2
- Thyroid, 5.5.2, 6.5.2, 9.5.2
- Tibetan name, 15.4
- Ticks, 6.12
- Tiger, relation with rhino, 3.7.5, 7.8.14, 8.8.12, 9.10.15
- Tokyo, zoo, 5.16.2, 6.16.4, 9.16.4
- Tongat, 5.5.2, 6.5.2, 7.5.2, 8.5.2, 9.5.2, 3.7.8
- Tonsils, 5.5.2, 6.5.2, 7.5.2, 8.5.2
- Tossing of bone, 1.4.44
- Tournai, 9.15.4
- Trade, 1.6, 16
- Translocation, 5.9.14, 6.9.14, 7.9.14, 8.9.14
- Transvaal, 5.9.12, 6.9.12
- Traps, 3.9
- Tributes, China, 17.18
- Tring, museum, 5.15
- Triplumaria*, 9.12
- Trivandrum, zoo, 9.15.6
- Trypanosoma, 6.12
- Tsavo N.P., 6.9.18
- Tuberculosis, 6.12, 7.12, 9.12
- Tunisia, prehistoric distribution, 17.18
- Twins, 5.11.11, 9.11.18
- Uele, 5.9.15
- Uganda, distribution, 5.9.14, 6.9.14
- Ujung Kulon N.P., 8.7.8
- Umfolosi N.P., 5.9.12
- Ungulates, relation with rhino, 17.18, 6.10.18, 8.8.12
- Unicorn, 1.3.3, 2.1, 2.2, 3.3, 4.3, 5.3, 6.3, 7.3, 8.3, 9.3, 10.3, 11.3, 12.3, 13.3, 14.3, 15.3, 16.3, 17.3, 18.3, 19.3, 20.3, 21.3, 22.3, 23.3, 24.3, 25.3, 26.3, 27.3, 28.3, 29.3, 30.3, 31.3, 32.3, 33.3, 34.3, 35.3, 36.3, 37.3, 38.3, 39.3, 40.3, 41.3, 42.3, 43.3, 44.3, 45.3, 46.3, 47.3, 48.3, 49.3, 50.3, 51.3, 52.3, 53.3, 54.3, 55.3, 56.3, 57.3, 58.3, 59.3, 60.3, 61.3, 62.3, 63.3, 64.3, 65.3, 66.3, 67.3, 68.3, 69.3, 70.3, 71.3, 72.3, 73.3, 74.3, 75.3, 76.3, 77.3, 78.3, 79.3, 80.3, 81.3, 82.3, 83.3, 84.3, 85.3, 86.3, 87.3, 88.3, 89.3, 90.3, 91.3, 92.3, 93.3, 94.3, 95.3, 96.3, 97.3, 98.3, 99.3, 100.3
- unicornis*, 9.2.2
- Unicornus*, 4.3.1
- Uppsala, Academy, 5.6, 6.6
- Urination, *see* Defecation
- Urine: analysis, 9.7, 10.7, 11.7, 12.7, 13.7, 14.7, 15.7, 16.7, 17.7, 18.7, 19.7, 20.7, 21.7, 22.7, 23.7, 24.7, 25.7, 26.7, 27.7, 28.7, 29.7, 30.7, 31.7, 32.7, 33.7, 34.7, 35.7, 36.7, 37.7, 38.7, 39.7, 40.7, 41.7, 42.7, 43.7, 44.7, 45.7, 46.7, 47.7, 48.7, 49.7, 50.7, 51.7, 52.7, 53.7, 54.7, 55.7, 56.7, 57.7, 58.7, 59.7, 60.7, 61.7, 62.7, 63.7, 64.7, 65.7, 66.7, 67.7, 68.7, 69.7, 70.7, 71.7, 72.7, 73.7, 74.7, 75.7, 76.7, 77.7, 78.7, 79.7, 80.7, 81.7, 82.7, 83.7, 84.7, 85.7, 86.7, 87.7, 88.7, 89.7, 90.7, 91.7, 92.7, 93.7, 94.7, 95.7, 96.7, 97.7, 98.7, 99.7, 100.7
- 13.8
- Utrecht, museum, 8.11
- Uttar Pradesh, 5.9.6.2
- Vernacular names, *see* Names
- Versailles rhinoceros, 3.15, 4.15
- Veterinary studies, 5.13, 6.13, 7.13, 8.13, 9.13, 10.13, 11.13, 12.13, 13.13, 14.13, 15.13, 16.13, 17.13, 18.13, 19.13, 20.13, 21.13, 22.13, 23.13, 24.13, 25.13, 26.13, 27.13, 28.13, 29.13, 30.13, 31.13, 32.13, 33.13, 34.13, 35.13, 36.13, 37.13, 38.13, 39.13, 40.13, 41.13, 42.13, 43.13, 44.13, 45.13, 46.13, 47.13, 48.13, 49.13, 50.13, 51.13, 52.13, 53.13, 54.13, 55.13, 56.13, 57.13, 58.13, 59.13, 60.13, 61.13, 62.13, 63.13, 64.13, 65.13, 66.13, 67.13, 68.13, 69.13, 70.13, 71.13, 72.13, 73.13, 74.13, 75.13, 76.13, 77.13, 78.13, 79.13, 80.13, 81.13, 82.13, 83.13, 84.13, 85.13, 86.13, 87.13, 88.13, 89.13, 90.13, 91.13, 92.13, 93.13, 94.13, 95.13, 96.13, 97.13, 98.13, 99.13, 100.13
- Vienna: museum, 3.6, 4.6, 5.6, 6.6, 7.6, 8.6, 9.6, 10.6, 11.6, 12.6, 13.6, 14.6, 15.6, 16.6, 17.6, 18.6, 19.6, 20.6, 21.6, 22.6, 23.6, 24.6, 25.6, 26.6, 27.6, 28.6, 29.6, 30.6, 31.6, 32.6, 33.6, 34.6, 35.6, 36.6, 37.6, 38.6, 39.6, 40.6, 41.6, 42.6, 43.6, 44.6, 45.6, 46.6, 47.6, 48.6, 49.6, 50.6, 51.6, 52.6, 53.6, 54.6, 55.6, 56.6, 57.6, 58.6, 59.6, 60.6, 61.6, 62.6, 63.6, 64.6, 65.6, 66.6, 67.6, 68.6, 69.6, 70.6, 71.6, 72.6, 73.6, 74.6, 75.6, 76.6, 77.6, 78.6, 79.6, 80.6, 81.6, 82.6, 83.6, 84.6, 85.6, 86.6, 87.6, 88.6, 89.6, 90.6, 91.6, 92.6, 93.6, 94.6, 95.6, 96.6, 97.6, 98.6, 99.6, 100.6
- zoo, 6.16.4, 7.13.4, 7.14.3, 7.15.3, 7.16.3, 7.17.3, 7.18.3, 7.19.3, 7.20.3, 7.21.3, 7.22.3, 7.23.3, 7.24.3, 7.25.3, 7.26.3, 7.27.3, 7.28.3, 7.29.3, 7.30.3, 7.31.3, 7.32.3, 7.33.3, 7.34.3, 7.35.3, 7.36.3, 7.37.3, 7.38.3, 7.39.3, 7.40.3, 7.41.3, 7.42.3, 7.43.3, 7.44.3, 7.45.3, 7.46.3, 7.47.3, 7.48.3, 7.49.3, 7.50.3, 7.51.3, 7.52.3, 7.53.3, 7.54.3, 7.55.3, 7.56.3, 7.57.3, 7.58.3, 7.59.3, 7.60.3, 7.61.3, 7.62.3, 7.63.3, 7.64.3, 7.65.3, 7.66.3, 7.67.3, 7.68.3, 7.69.3, 7.70.3, 7.71.3, 7.72.3, 7.73.3, 7.74.3, 7.75.3, 7.76.3, 7.77.3, 7.78.3, 7.79.3, 7.80.3, 7.81.3, 7.82.3, 7.83.3, 7.84.3, 7.85.3, 7.86.3, 7.87.3, 7.88.3, 7.89.3, 7.90.3, 7.91.3, 7.92.3, 7.93.3, 7.94.3, 7.95.3, 7.96.3, 7.97.3, 7.98.3, 7.99.3, 7.100.3
- Vietnam, distribution, 8.7.7, 8.7.8
- Virgin, capture by, 3.9
- Virtue of parts, 3.8
- Vocalisation, *see* Voice
- Voice, 3.7.14, 5.10.26, 6.10.26, 7.10.26, 8.10.26, 9.10.20
- Vrolik, G., 8.11, 9.14
- Wallowing, 3.7.15, 5.10.27, 6.10.27, 7.10.27, 8.10.27, 9.10.21
- Wandelaar, Jan, 3.18.2
- Wandering, *see* Movement
- Wankie N.P., 6.9.25
- Warren & Co., 9.15.3

- Washington: museum, 5.15, 6.15, 7.12; zoo, 6.16.4, 9.15.6
Waterhole, precedence, 3.7.11
Weapons, 5.10.28, 7.8.23, 8.8.20, 9.10.22
Weight, see Size
West Madi, 5.9.14
West Nile, 5.9.14, 5.9.20
Whips, 10.6, 10.7, 13.9, 14.15
Whipsnade, zoo, 5.16.3, 6.16.4, 9.15.6
White, origin of name, 5.4.3
White rhinoceros, see *Ceratotherium simum*
Wild ass, 1.3.2
Wood Norton, museum, 5.15
Yale, museum, 9.14
Yemen, 12.6
Zagreb, zoo, 6.16.4
Zaire, distribution, 5.9.15, 6.9.23
Zambia, distribution, 5.9.3, 5.9.16, 6.9.24
Zimbabwe, distribution, 5.9.3, 5.9.17, 6.9.24
Zoological Institute, 9.15.3
Zürich, museum, 7.12
Zululand, 5.9.12, 6.9.19

Kees Rookmaaker

9 juli 1983